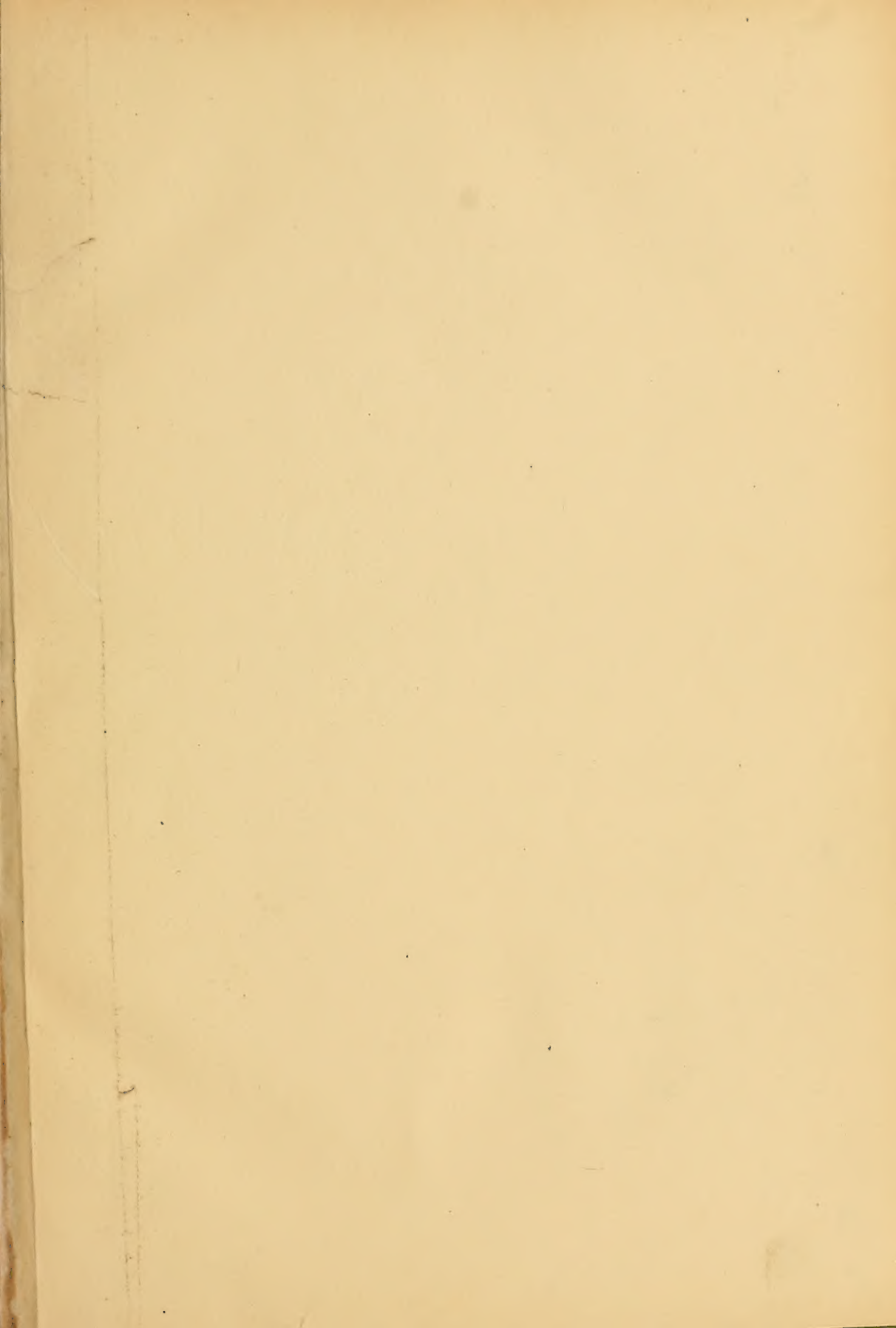



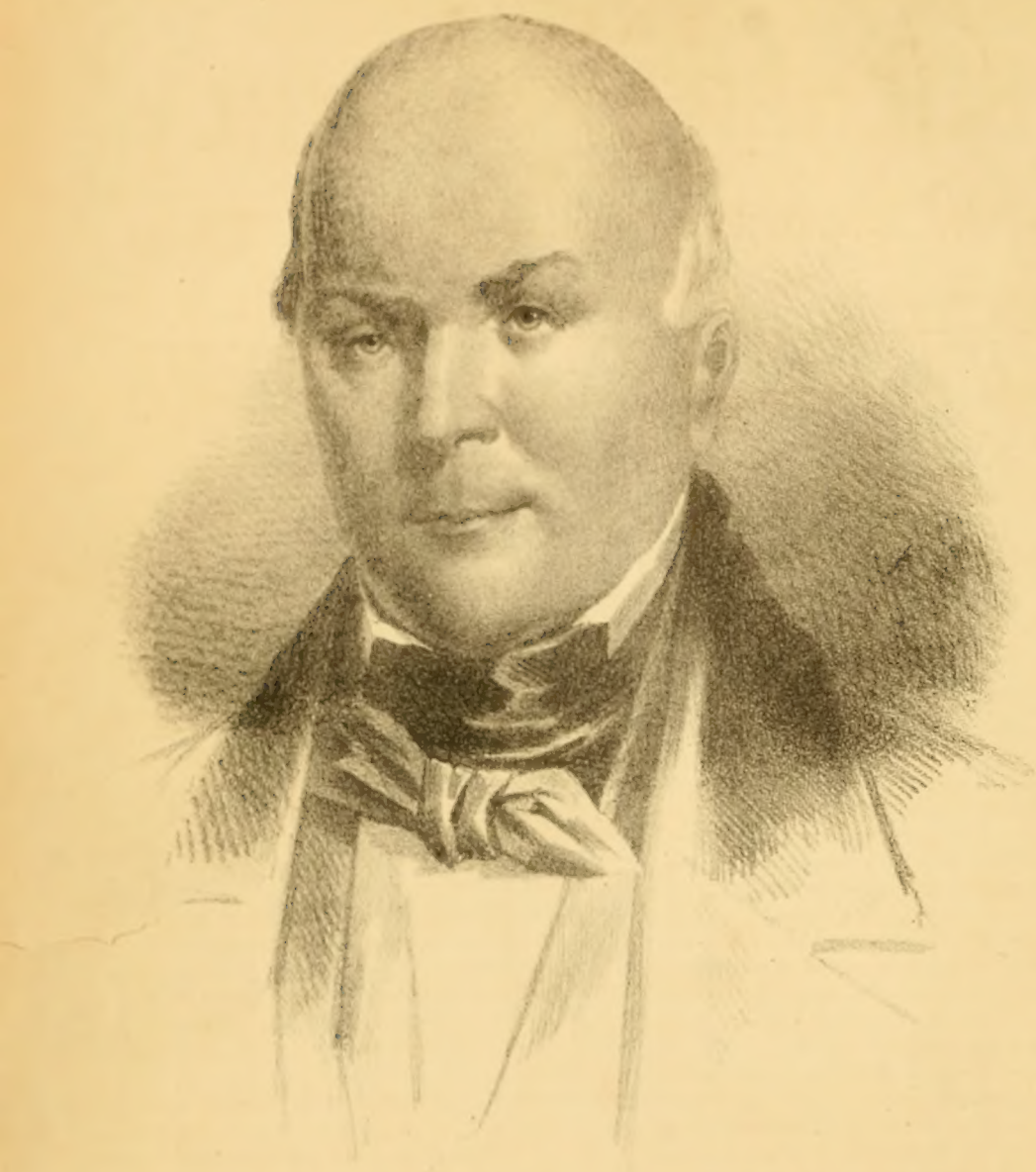


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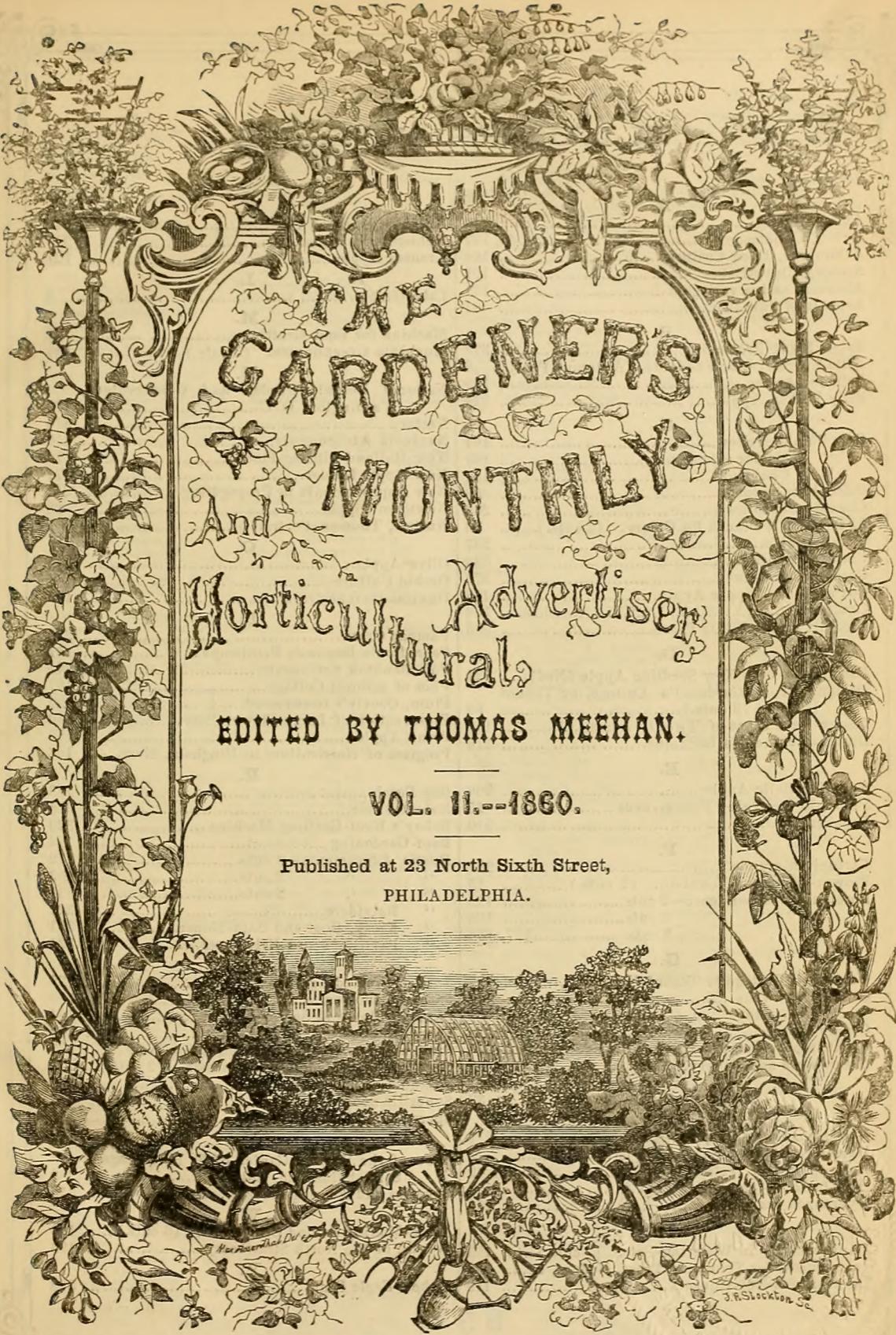


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Yours truly
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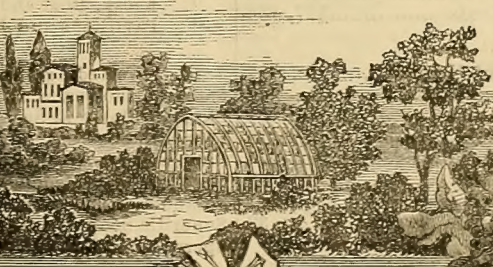


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THOMAS MEEHAN, EDITOR.

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Hints for January.



FLOWER GARDEN AND PLEASURE GROUND.

There is very little to be done in this department of the year, except prepare for the busy season soon to approach. Hedges that have not had their winter dressing, should be attended to. If the remarks we have before made on hedges have been attended to through the summer, there will be very little now to do. We have said that pruning in summer weakens a plant, while pruning in winter strengthens it; and so, as hedges naturally get spoiled by growing vigorously at the top, and weakly at the sides, they should be severely summer pruned at the apex, and winter pruned near the base. Now will be the time to see to the latter, taking care not to make it too narrow. A good hedge should be nearly four feet wide at the base, and be cut into a point at the top.

Mice are very destructive to some osage orange hedges when newly planted. They should be watched occasionally, and some of the many well known methods of destroying them, employed. Weeds and rubbish, when suffered to lie about the roots of a hedge, often induce mice to harbor, and many good hedge growers believe that they are never troublesome except under such circumstances. At any rate cleanliness is much in the hedges favor.

The remarks on pruning hedges are applicable to all kinds of trees and shrubs. Wherever any part of a tree does not grow freely, pruning of such weak growth, at this season, will induce it to push more freely next year. All scars made by pruning off large branches, should be painted or tarred over, to keep out the rain. Many fruit trees become hollow or fall into premature decay, through the rain penetrating through old saw cuts made in pruning. Also the branches should be cut off close to the trunk, so that

no dead stumps shall be produced on the tree, and the bark will readily grow over. Many persons cut off branches of trees in midsummer, in order that the returning sap may speedily clothe the wound with new bark, but the loss of so much foliage in the summer injures the tree, and besides, painting the scar removes all danger of rotting at the wound.

The manure heap is one of those items that can receive attention at this season to advantage. Without a good pile of rich compost, very little success can be hoped for in any kind of gardening affairs. Leaves and litter of every description should be collected whenever possible, and stored in suitable places where they will not be offensive by their littery appearance. For flowers, generally leaf mould from the woods is very acceptable; not the half rotted leaves that are immediately on the surface, but such as has been powdered by age, and amongst which the roots of the trees have already penetrated, and rendered of a spongy consistence. We like all manures to be thoroughly decomposed before using, if the garden soil is already light and friable, and to this purpose the manure heap should be occasionally turned over and lightened to assist fermentation. This also is aided by watering the heap with a solution of potash, and which also gives additional value to the manure.

It is a very good practice to cover lawns with manure at this season. Two good results flow from this course. The frost is prevented from penetrating so deeply, and the ground being warmed much sooner in spring, is green and cheerful some time before unprotected lawns, and then the grass itself is strengthened, and its color brightened by the operation. But stable manure has the objection of introducing many coarse kinds of weeds that would not otherwise exist on the lawn, and so, where the grass grows poorly, and strength and luxuriansness is desired, guano and the phosphates are preferred. Many use bone dust, ashes, etc., but the mowers are apt to feel somewhat indignant in mowing-time, through this material taking the edge off their scythes.

Manure for flower beds, borders, etc., may be hauled convenient to where it is likely to be wanted in spring; many spread it on at once; but if the soil

is frozen very thick, it prevents the early thawing of the soil in the spring, and so, no time is gained.

Very small plants in borders or on the lawn, or larger plants that may have been set out the past season, should be mulched with anything that will prevent the ground thawing, and so, the plant "drawing out." Most readers have done this in the fall, but there is good to be done by it yet by those who have neglected it till now. Keep a sharp lookout for mice under the litter, however, where it is wise from the value of the specimen to run no risks; brown paper, afterwards tarred, may be wrapped around the stems as far as the litter covers them.

A great deal of trenching and subsoiling can be done through the winter if manure be thrown over the surface before it is frozen too deep; a little snow even, dug in will not injure the operation, as we find in our own experience.

VEGETABLE GARDEN.

Beyond what we have said in our flower garden hints, there is little that can be added to this department. It is customary to advise at this time to look after tools, implements, poles, sticks, and everything likely to be wanted when the busy season arrives, and to arrange a method and system for everything; and this we are sure no one of our readers will neglect.

Towards the latter end of the month, however, in the Southern States, there will be little time for study; spring will be opening, and hard work will be the order of the day. Peas and potatoes must be planted as early as the season will admit. Even here in Pennsylvania we have planted peas to advantage during a favorable "spell" in the first week in February. In sowing peas, a common error is to sow them too thick: each pea should be nearly two inches apart if the soil is rich, in order to have a very satisfactory crop of large pods. We hate to see the best half of mankind, namely, womankind, imposed upon by those gardeners who grow plenty of pods with no peas in them for the dear creatures to "shell."

Asparagus beds may have the soil raked off them a little, if it was thrown up from the alley way in the fall. It allows the sun to get to the roots earlier, and the crop is forwarded thereby. If the beds are poor they may have a dressing of guano, or superphosphate, which has been found very beneficial to this crop. It has become almost a stereotyped recommendation to have "salt applied," but there is a good deal of the humbug about it. In dry, sandy soils it does a little good, and a little in whatever manure is applied is acceptable to them, but more has been made of the salt theory with asparagus than it deserves.

Asparagus beds may be got ready as soon as the ground is sufficiently dry to admit of working. A deep soil is all important, two feet at least, and a situation should be chosen that is warm, and yet, not too dry. The roots should be set about four inches under the surface, twenty inches or two feet from each other, and the rows, eighteen or twenty inches apart. Large, fine asparagus cannot be obtained by crowding the plants; strong two and three year old plants are the best; although in good rich soil, one year old plants will often bear a good crop the year after planting. The length of time asparagus requires to come into bearing depends much on the soil. It is useless to attempt raising it in poor ground.

Rhubarb also is one of the roots requiring early attention, and requires a very rich and deep soil, of a clayey nature to bring it to perfection. They need be set but a few inches under the surface, and should have a clear space of about two feet each way to develop themselves properly. There have been so many improvements made in the varieties of rhubarb now, that there can be a good selection of kinds for different circumstances:

Prince Albert and Tobolsk for earliness; Magnum bonum, Victoria, and Cahoon's Mammoth, for size and productiveness; Linnaeus, for size and quality; and Prince of Wales, and Crimson Perfection for beauty of color, are amongst the most popular. In planting, use off-sets; seedlings do not reproduce the same kinds.

WINDOW PLANTS.

These suffer much at this season from the high and dry temperatures at which it is necessary for human comfort to keep our dwellings. Air can seldom be admitted from the lowness of the external temperature. Saucers of water under the plants do much to remedy the aridity from which room plants suffer. In such cases, however, so much water must not be given to the plants as to those without saucers. The water is drawn up into the soil by attraction, and though the surface will appear dry, they will be wet enough just beneath. The more freely a plant is growing, the more water will it require; and the more it grows, the more sun and light will it need. In all cases, those which seem to grow the fastest should be placed nearest the light. The best aspect for room plants is the south-east. They seem like animals in their affection for the morning sun. The first morning ray is worth a dozen in the evening. Should any of our fair readers find her plants, by some unlucky miscalculation, frozen in the morning, do not remove them at once to a warm place, but dip them in cold water, and set them in a dark spot, where they will barely escape freezing; sun light will only help the frost's destructive powers.

GREENHOUSE.

In many greenhouses, we have noted lately, more attempts at a tasteful arrangement of the plants, than used formerly to prevail, when the only object of a greenhouse seemed to be a mere store-place for border flowers during winter. This is very commendable, and might be much more improved on. Every few weeks the plants may be reset, and the houses made to appear quite different. In the end where the lowest plants once were set, now the taller ones may be placed; here a convex group, and there presenting a concave appearance. Drooping plants on elevated shelves, and hanging baskets from the roof, make little paradises of variety in what was once unbearable monotony. Gardeners often wish to know the secret of maintaining a continued interest on the part of their employers, in their handiwork, and this is one of the most potent—continued change and variety in the appearance of everything. Beautiful flowers, graceful forms, elegant combinations, all developing themselves with a healthy luxuriousness, and everchanging endlessness, will wake up an interest in the most indifferent breast.

The temperature of the greenhouse at this season should be maintained at about 50°, allowing it rise 10° or 15° under the full sun, and sinking 10° or so, in the night. Though many of our practical brethren differ from us, men, for some of whose opinions we entertain the highest respect, we do not recommend a very great difference between night and day temperature, we think 10° ample allowance. It is following nature, no doubt; but we would rather strive to beat nature. She can not make the specimens we do, nor flower them so beautifully or profusely, and in many other respects we think the practical gardener can much improve on her red tape notions, and old fashioned courses.

Many plants will seem to be full of roots, and the temptation to repot will be very great, but if a plant is desired to flower freely, the fuller of roots the pot is the better. Continual pot-tering is the bane of plant culture. If the soil is so very much exhausted that the flowers are likely to be small and poor, a half inch of the old soil in the pot, on the surface, may be replaced by a top dressing of rich compost. But watchfulness must be afterwards exercised, or the plant will get over dry, as the loose soil on the top will often appear wet, when in reality all below is as dry as a powder horn.

This, by the way, is often the cause of the flower buds of Camellias falling off. The little dribblings of the water pot, they daily receive, do not penetrate far beneath the surface; the roots at the bottom do not get enough, and the buds drop. Camellias ought to be in such a part of the house, as not to be liable to become often dry; such a spot, for instance, as will

admit of one good thorough watering being enough to last for a week.

How we pity the lover of flowers who, at this season, has not a greenhouse. We would not be without the luxury, for all the gold in California; and now that the principles of construction has been so simplified that one hundred dollars will do the work of three hundred in times gone by; there is little excuse on the score of expense.

VINERY AND FORCING HOUSES.

About the first of January, those who have the luxury of forcing houses, will have their slumbers disturbed by visions of early fruit, and will rise in the morning with the determination to begin at once and go right ahead. Those, of course, who are blessed with superior skill and knowledge, have already commenced, and are now under way. At the start it is best to go slowly, or the plants will be like a good pacer, who has not turned his wind in the race. For Strawberries, 55° will be a good point to start with, and indeed, at no time do they require a much higher temperature than 65°. They are the easiest of all fruit to force. They require plenty of water, saucers under them do well; like plenty of light, must be near the glass, and must be carefully watched for the red spider. They well repay the cost and trouble of forcing. All other kinds of fruit may be started at the same temperature, rising it as the buds begin to burst, and the branches proceed to develop themselves. As the flowers expand they must be carefully guarded against excess of moisture, or from becoming too dry. In either case the buds will fall off. Sudden changes of temperature will also produce the same effect, as well as sudden transitions from a moist to a dry atmosphere. There is less danger from a moist atmosphere than a dry one, and water should be strewn plentifully about the paths and shelves, and before giving air, when much of the moisture in the house will escape, as the upper sashes are opened.

While keeping an eye on the success of this year's crop, a glance must occasionally be bestowed on the season that is to follow after, and if any shoot seems to be starting away stronger or more vigorously than the others, pinch it out as soon as such a monstrous tendency is fairly discernible.

Above all things in forcing take care of the leaves; never suffer one to be in the slightest degree injured, if possible to prevent it. Sudden bursts of sun, insects, escape of gas from the flues, very low or high temperature, too much or too little water, any one of them, will come unexpectedly, like a thief in the night, and rob you of all your anticipated fruit, if you only allow them the least chance of a foothold on the leaves.

Communications.

SHALLOW PLANTING OF TREES: MERITS OF THE PRACTICE.

BY WM. BRIGHT, LOGAN NURSERY, PHILADELPHIA.

It has been our custom, for many years, in planting trees of all kinds—evergreens, ornamental and fruit trees—to set them as near the surface of the ground as possible, often exciting much alarm for the safety of the trees in the minds of anxious amateurs, and much contempt on the part of incipient gardeners, for the seeming absurdity of the practice. But having somehow got the idea into our head that this method of planting trees was the *true natural method*, we obstinately persevered in it, and now, after more than ten years' experience in the practice, it has grown into a settled system with us, and we have begun to find out the reasons why it is really the best and most judicious plan of planting trees.

In transplanting good specimens of evergreens, we usually endeavor to lift them with a ball of earth attached to the roots, fifteen or eighteen inches deep, and two feet or more in diameter. For such a tree, we make a hole only four inches deep, setting it, in fact, almost on the surface of the ground. Then we throw about it, one or two cart loads of good loam, working it up into a sort of mound, of a concave or crescent form, sloping off to a distance of six feet from the tree on all sides. After this we mulch the whole mound very heavily with leaf mould, or old litter, and keep it so mulched, winter and summer, for two years. The mulch must be heavy enough to keep the mound constantly moist in summer, and to keep out frost in winter.

Deciduous trees we plant in the same way, as near the surface as possible, and rarely dig a hole over four to six inches deep. If the bottom roots are too long, we shorten them. In setting the tree, we spread out the roots, on every side, so as to form a natural support to the tree, in the same way that the ropes or guys support a derrick. The same rule of planting we apply, as nearly as possible, to fruit trees, though it is often difficult to do this with some of the stock obtained from the common nurseries. A great mistake is made by some nurserymen in working the pear on the quince; they almost always work them too high on the stem. If budded as low as they ought to be, (right down on the crown of the quince root,) they could be planted shallow much more successfully; it would enable us to cover the bud with two or three inches of soil, without being compelled to plunge the roots deep into the cold and sterile subsoil.

And here let us say, that in setting out deciduous

ornamental trees, and standard fruit trees, after the method here described, it is necessary to pay particular attention to the fact that the roots must be spread out horizontally, at right angles to the tree, no matter how tough they may be, or how difficult it may seem to do this. If the tree be set with the roots extending perpendicularly downward, as they usually come from the nursery, it will be impossible to plant in shallow holes, as the tree would project too far out of the ground. The tree must not be set in the soil like a broom, but rather with its roots spread out precisely like a chicken's foot with the toes extended at right angles from the leg. In this position it must be held firmly down till it be covered heavily with soil, when it will remain in place. The roots will then have the right direction for extending into the adjacent top soil.

For all kinds of trees we like to have the soil thoroughly and deeply ploughed and subsoiled; but the method of planting here recommended, renders deep trenching, and heavy manuring, and underdraining, in a majority of instances, quite unnecessary. Indeed, if we were to plant a fruit garden and lawn for ourselves, to-day, we would rather have all the trees set only two to four inches deep, in the decently good loam of a tolerably porous soil, (say a fair corn field) which had been subsoiled fifteen inches deep, without a particle of manure, than to have a field trenched three feet deep, and manured at the rate of two hundred horse-loads of manure to the acre, if the trees were to be set in the usual way, in deep holes dug for the purpose, so as to force or invite the main roots two or three feet downwards into the ungenial subsoil.

Our chief reasons for this shallow planting are these: it is nature's own method of growing trees, and experience has proved to us that it is the best ever devised by man. In the forest and field, wherever trees grow naturally, you will always find the largest number of roots just under the surface of the earth, in the top soil. Few or no roots, except the tap roots, extend downwards very deeply, but in the forest they run along for an immense distance just under the *mulching of leaves*, which both feed and protect them. A common loamy soil is only about six or eight inches deep, and this is all the material there really is in a field in a condition to furnish food for trees. Now, if you set a tree very near the surface of the ground, the roots will extend rapidly, freely and widely in the good top soil, and there they find their appropriate nutriment. If the light is excluded by mulching, as is done in the forest by leaves, you have all the conditions necessary for chemical changes in the soil, and *root feeding*, viz.: heat, moisture and darkness; and no crude, cold, sour, uncongenial particles of matter to obstruct or poison the

roots. Decomposition is constantly going on in the surface soil, and this is materially aided by *plant-life*, which vegetable physiologists tell us acts like a ferment in dough, or like lime in muck, setting up chemical changes in the soil, which go on afterwards to an almost unlimited extent.

A surface-planted tree is placed in its *natural element*, a well decomposed and rapidly changing soil. Its roots get plenty of air, and if well mulched, are always moist; they become like the body and branches of the tree itself, accustomed to changes of temperature, and in the fall *ripen and harden off their wood* almost in the same way that a grape vine does its branches. But still the roots of a well mulched tree are never so liable to be affected by frost as even a deeply planted tree, for you will frequently find in the forest, under a heavy covering of leaves, in winter, that the frost has only penetrated to the depth of two inches, when in exposed ground the soil is frosted to the depth of four feet.

A surface-planted tree, immediately fed with one or two cart-loads of good loam, placed around the cut ends of its roots, and well mulched, is in a much more favorable condition to live and thrive, than a tree plunged deeply down into a cold, dank cistern of a hole, even if supplied with abundance of manure, and all sorts of special fertilizers. The surface-planted tree can and will send out its roots far and wide in the adjacent surface-soil; but the deeply planted tree finds nothing congenial or inviting in the soil around its roots, even if that soil be so well trenched or sub-soiled that it is able to penetrate it. A very large proportion of all the failures which have been made in growing fruit trees, and especially the pear, are to be attributed, in our opinion, to deep planting and excessive manuring. Nature shows us plainly what to do:—plant shallow, give all manures in light and frequent doses, and protect the roots from sun and frost by mulching.

As evidence of the practical merit of the plan of surface-planting which we advocate, we will take the liberty to refer to the magnificent specimens of Norway Spruce, Austrian Pine, and other evergreens, or the Lawn of J. S. LOVERING, Esq., of Oak Hill, on Old York Road, near Philadelphia, which we planted upon this system. These fine trees were about four feet, and four feet six inches high when planted. They were taken up with balls of earth about eighteen inches deep and two feet in diameter, and set on the surface of the lawn in cavities not more than three or four inches deep; mounds were formed around them with good loam, and they were mulched for two years as before described. They never met with any check or injury; the foliage never suffered in the least; and they are now, when only six years planted, the finest of specimen trees, upwards of

eighteen and twenty feet high, the admiration of every beholder competent to judge of their excellence and beauty.

The same may be said of the evergreens which we planted five years ago on the grounds of J. SWIFT, Esq., half a mile north of Mr. Lovering, on the York Road, in a very exposed, bleak situation. Here, where the white Pine deeply planted, turned brown and lost its foliage in winter, the Austrians, shallow-planted, not only endured the fierce north-westerners without injury, but always made a fine growth, and retained, under all circumstances, their rich native luxuriance.

There are other lawns in our immediate vicinity, where we have planted evergreens, and all sorts of delicate deciduous trees, in September and November, upon this system of shallow beds, with mounds and mulching, without losing one tree in a thousand, and with a degree of success in the growth and beauty of the trees, which rarely results from the common method of digging holes.

We have now partially under our care, a pear orchard of upwards of one thousand dwarf and standard trees, planted shallow and well mulched, one year ago, according to our advice and direction, without a particle of stable manure under or about them, with a loss of only two trees in a thousand; and a finer pear orchard of the same age and size, we feel assured, has never been seen in Pennsylvania. When this orchard gets into bearing, we intend to give a full description of our entire system of planting, manuring and pruning. We have, this fall, planted in this same orchard, nearly three thousand more pear trees, as shallow as possible, in no instance thrusting the spade in digging the holes for them, into the sub-soil. The field has been thoroughly subsoiled, but not trenched or underdrained. The soil is, however, a good one, and the subsoil is gravelly and porous.

As to the propriety, and even necessity of shallow planting in setting out trees, in all cases, to insure the highest degree of success, we have no particle of doubt. We believe it is the only true and natural method.

And now, my dear amateur fruit grower, if you have a poor, sickly, unthrifty tree, deeply planted, which looks stunted and blighty, let me beg of you to try an experiment with it:—just dig the unfortunate tree out of the cold, rank grave in which you planted it, at once; lift it up gently with a large ball of earth attached to its roots, and place it on the good warm, sweet surface soil, in a cavity which you can make with your foot, say two inches deep; throw around it a little good loam, mound up to it and mulch it heavily, cut back the top freely in proportion to the loss of roots, and our word for it, you will see a change in the health and fruitfulness of your tree, in

a few months, which will delight and astonish you.

Subsoil plowing, shallow planting, heavy mulching and surface manuring are the cardinal points in fruit culture. Underdraining may sometimes be necessary in heavy, wet soil, but with shallow planting, this expense, and also that of trenching, may be often avoided. As to the proper manures for fruit trees, grape vines, &c., we shall probably consider these subjects soon, in the pages of the *Gardener's Monthly*, if agreeable to the editor.

[We believe one of the first, if not the very first article we ever wrote, at the suggestion of Mr. A. J. Downing for his *Horticulturist*, many years ago, was on the same subject, and presenting similar views as we have now the pleasure of inserting from the pen of Mr. Bright, and it is therefore needless to say how cordially we agree with him. We are at all times pleased to hear from Mr. Bright on any subject.—ED.]

DERIVATION OF THE WORD "NOSEGAY."

BY MISS E.

Mr. Meehan:—The following notice may possibly interest some of the young readers of your *Monthly*. If you think so, pray give it a corner.

I found in an old book of queer things, the "Origin of the word 'Nosegay,' and of the 'Judge's Nosegay.'"

"As to the latter part of the word *Nosegay*, it is so transformed in sight and signification, that only such a judicious writer and etymologist as Cleland would have traced it to its original. In his Celtic vocabulary, page 2, he says:—"gay, applied to nosegay, comes from the Erse tongue, in which, *geach* signifies a *bough* or bunch of flowers, which might be held to the nose.

Every judge, every councillor, every sheriff, had his wand, *bough*, staff, or rod of office, which varied in their forms according to the difference of functions. The nosegay, now affected by the judges, is not, as is vulgarly supposed, a mere preservative against the closeness and ill effect of a crowded court, it is the relic of that primitive and ancient custom of the judges holding the *bough* or sceptre of justice in his hand.

It was formerly called *bouquet* or *little bough*, whence the French word *bouquet* for *nosegay*."

THE BELLE LUCRATIVE, OR FONDANTE D'AUTOMNE PEAR.

BY JOHN B. EATON.

BUTLERO, November 2nd, 1853.

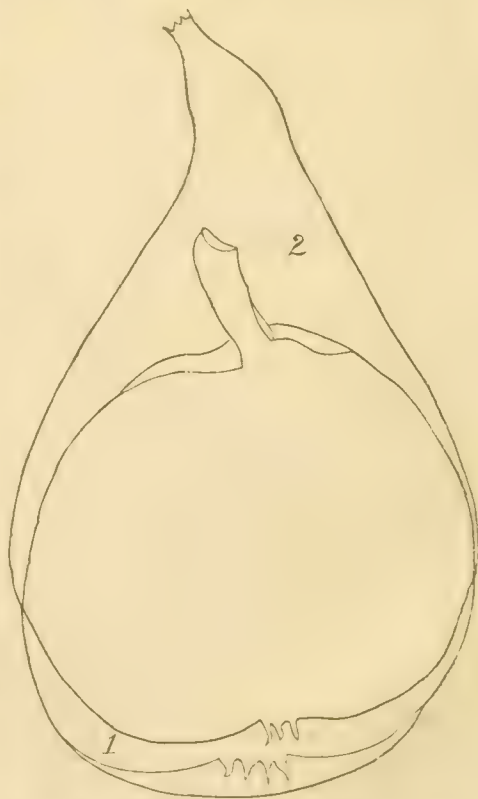
In a former number of your *Monthly*, Mr. Editor, I find an article upon this pear, intended to show that there are two distinct varieties cultivated, under the same name; of which, the one most commonly grown

should properly be called *Fondante du Bois*, and giving, in proof, two dissimilar outlines and descriptions.

Of the latter, as a distinct variety, I have no personal knowledge, having always been accustomed to consider it a synonym, either of the *Flemish Beauty*, or of another variety, under which it is also placed by Downing.

The *Belle Lucrative* is my favorite pear, and I have observed its habits and characteristics, with considerable attention. I find that its form varies in the most extraordinary manner, and it is not uncommon to find specimens the most dissimilar, upon the same tree, and which, a person not well acquainted with the variety and its vagaries, would not suspect it to belong to the same sort until tested.

I send several copies of outlines traced from specimens grown by myself, of the unmistakably genuine *Belle Lucrative*, some of which you will find to vary quite as much as the two accompanying the article in question, and each of which might pass for that of a distinct variety.



I think that a comparatively small proportion of specimens are so much elongated as the outline given by Downing, the more roundish form predominating,

and that the figure given by Hovey approaches more nearly to the average shape of the variety.

The Belle Lucrative is not alone in this habit; I could instance several other pears which evince a remarkable fondness for changing their shape. That various forms are assumed by the White Doyenne is well known, but it has the peculiarity that, usually there is a strong resemblance between all the fruits on any one tree, although, of course, there are exceptions, to which is partly owing, the fact that it had so frequently been brought out as a new sort. With the Belle Lucrative, Duchesse d'Angouleme, and some others, on the contrary, it is not unfrequently the case, that many dissimilar forms may be found upon the same tree, if not the same branch.

The former more clearly defined class of variations may arise from various conditions of soil, climate or culture, but the latter would seem to be governed by no fixed laws, and to depend upon influences affecting individual specimens.

For a season or two, I took pains to draw outlines from specimens of an abnormal shape, of several of the varieties which I had the best opportunity of observing, and made quite an extensive collection, which I have preserved as a matter of curiosity, but have not of late, enlarged. Some pages of my book embrace, under the same name, enough diverse forms to constitute a half dozen distinct sorts.

In regard to the color of the Belle Lucrative, I find that neither the green nor yellow tint is constant. The greenish hue is the most common, but I have had specimens of the roundish form quite as yellow as the more elongated ones. It is our present impression that they show more color when *not* gathered early, although the quality may not be so good.

I am not persuaded of the correctness of the theory advanced. If there really are two varieties, distinct in form, flavor, color and habit, grown under the name of Belle Lucrative, or Fondante d'Antonne, I should be much gratified by an opportunity of making a personal investigation of their points of difference, and shall, at all events, require some testimony on this side of the Atlantic to convince me that, of the thousands who have, for years, had this pear under cultivation in this country, no one would have, ere this time discovered that there were two sorts under one name, if such were really the case.

REMARKS ON THE IRIS XIPHIODES.

BY DANIEL BARKER, WEST MERIDEN, CONN.

Many of the Iris are extremely handsome, and deserve to be much more generally cultivated in our flower gardens than they are. There is an almost infinite diversity of color and markings amongst them, and few herbaceous plants are more attractive.

In an old English Herbal, by Dr. Turner, published in 1568, the Iris of the present day is called the Flower de Luce, and he says "there be many kinds," and adds—"our London gardens are very even stored with every one of them. The Turkish Flower de Luce came from Constantinople, and doth prosper well in my garden, being not planted in over wet ground."

The kind which the European Florists have taken under their special care, and which they cultivate with so much success, is called the English Iris; and by those who are skilled in the art of hybridization, many very beautiful varieties have been raised, named and exhibited at the grand horticultural exhibitions in France and England, and have received, not only first certificates of merit, but high encomiums from the first florists of the day.

The flowers of the English Iris are much larger and altogether more beautiful than those of the Persian or Spanish varieties. I say varieties, as, after minutely examining a number of the so-called species, and comparing them with these authenticated varieties, I am inclined to consider the greater part of them nothing more than garden varieties; more especially after having been successful in raising a quantity by cross impregnation; and finding that distinctions much more palpable than in many of the kinds published as distinct species occur.

Though we now have many very fine and beautiful varieties of the *Iris Xiphioides*; many of them extraordinary and beautiful colors, the day is not far distant when the persevering hybridist will produce varieties much finer in form, size and color than any we yet possess.

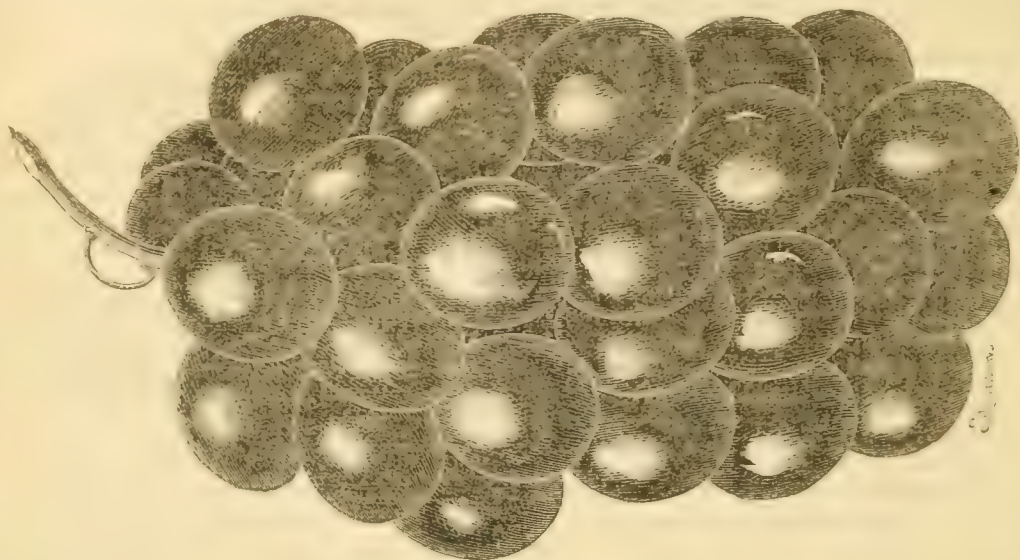
The cultivation of the English Iris differs from the herbaceous or fibrous rooted kinds; the latter are even adapted for the mixed flower borders, where they should occupy a conspicuous position. The English varieties are bulbous plants, and for effect should be grown in masses. The cultivation is very simple; as, in any light, rich soil they will grow and flower to perfection. They should be planted one foot apart, and about four inches deep; where they may remain from three to four years without being removed; covering them in winter with about six inches of old tan bark, or rotten manure, which should be removed the first or second week in April, according to location, &c.

The hybridizing, saving the seed, and raising new varieties must form the subject for another paper, should it be deemed of sufficient interest for the columns of the *Gardener's Monthly*.

[The Iris is a beautiful tribe of plants. Mr. Barker's excellent article will draw attention to them which they richly deserve. The promised article will be very welcome.—ED.]

THE LABE GRAPE.

Amongst several new varieties of grapes that have come before us this year, and seemed to afford indications of "promising well," the present is one that impressed us favorably. It is a large berry, of a very deep black color; the bunch is oblong, and in shape very distinct from many of the Isabella section, to which it belongs. The flavor is rather sharp, but combined with a peculiar pleasant sweetness.



Understanding that it originated about Lebanon, we wrote to Mr. S. Miller for any account of its history he might possess, and have received the following note:

Friend Meehan:—Some ten years ago, a man by name of Hamilton, was passing along an alley in Lebanon, when he observed a grape vine lying among some weeds and trash over which wagons and carts had been passing. It had been thrown out of a garden, the owner of which, of course, thought it a worthless fox or frost grape seedling. Hamilton handed it over to Mr. Labe, his son-in-law, pressing upon him to plant it, saying he had no place for it. Labe has the vine now; says he has never known any rot or mildew on it, but every year a fine crop; says they are not near so fine this year as sometimes. The above is the account as I get it from the man who owns the original vine.

CALMBRIDGE, October 20th, 1892.

A TRIP TO THE NEW YORK NURSERIES.

BY DR. J. S. H.

From Philadelphia to Rochester, via New York City, and back by way of Elmira, Williamsport, and Reading. That was the route.

At ELIZABETHTOWN, New Jersey, we stopped to see WILLIAM REID'S Nursery, which justly deserves the reputation it enjoys, of being one of the "best kept" establishment of the kind in the Union. It is, indeed, a model of neatness and systematic beauty. Why should nurserymen, whose business it is to dress off other people's places, permit their own (as they sometimes do) to become models of shabbiness? A well-shaped, elegantly dressed tailor, is a walking advertisement of his shop; and a clean, neatly arranged, picturesque nursery is certainly a better card for the proprietor than many advertisements in the newspapers. Indeed, flaming advertisements so often herald ragged and vacant grounds, that it is with some misgivings that we pay our first visit to a place of this kind, made famous by the great art of advertising. But at William Reid's you find such admirable order, neatness and elegance in the arrangement, decoration, and keeping of the grounds, that it is really refreshing to get out of a disorderly world, for a short time, into such an Eden of rural perfection. It was the last week in October. Mr. Reid was as busy as a militia major on review day, getting out and shipping his stock. We wanted some pear

trees. Everybody seemed to be wanting pear trees. The anti-pear writers do not appear to have destroyed the public faith in the pear, or diminished the trade in trees. Here was Mr. Reid marching about amidst files, companies, regiments, and battalions of pear trees, standing "heeled in," in all parts of the grounds, ready for moving off, in numbers truly astonishing. Fine, strong, handsome, healthy "stuff" (in gardener's phrase) it is too. Nobody we think, grows any better pear trees than does Wm. Reid. Few produce them of such uniform excellence. In fact, uniform and universal excellence is the characteristic of the place. We left with the firm determination to make our own little place look better—next year.

—From Elizabethtown to New York City. Cars full of young villains, armed with rifles, styled the "Red Rovers," returning from a pretended target excursion. Sanguinary fellows, in scarlet flannel shirts, with eyelids mostly of the same hue as their garments. What a contrast between the serene beauty of William Reid's garden, and this scene of ruffian rowdyism.

—Went up the banks of the Hudson by railroad; stopped at Peekskill; found the eminent cultivator of new Native Grapes, Dr. C. W. GRANT, of Iona, at the Depot. Boat just ready to start for the Island; only waiting for the Doctor's private mail bag, which is large enough for a respectable country village, and came well filled.

The Doctor is a genial enthusiast in grape growing and fruit culture, full of pleasant gossip and shrewd philosophy. Two stout fellows, "regular water dogs," the Doctor said, rowed us over to the Island where his Vineyards and propagating houses are located—a rough, romantic spot near the west bank of the Hudson, in a sort of gorge of mountains, the queerest spot imaginable for a commercial nursery, but full of interest to a stranger, and no doubt quite the thing after all, for the purpose, as we shall see after going over it. Thirty minutes steady rowing brings us to the Island, and five minutes more to the Doctor's house. Pleasant cottage—signs of taste and comfort—interesting family—the Doctor's wife, an artist in fruits and flowers, as all fruit growers know who have seen his catalogue and colored plates. The Island contains about three hundred acres. Dr. Grant, his family, and workmen are the only residents. If Robison Crusoe had turned grape grower he might have made just such an establishment as this, that is, provided he had been furnished with the materials. In the midst of little sunny sheltered clearings, here and there, cut right out of the forest, are the Doctor's grape houses, vineyards, orchards, &c. No fences are needed, for the neighbors' cows, and the neighbors' boys, never intrude here. Six or eight propagating houses, fifty or sixty feet long, with span roofs, and more going up, first meet the eye. All are brim full

of grape vines in pots. How many hundred thousand Delawares, Dianas, Concords, Annas, and Prolifics of all sorts there are, we dare not undertake to say; but not more than the people will want, nor more than the Doctor deserves to make sale of at good prices, in return for his unwearied and hopeful labors to improve our native grapes. Large patches of Delawares, Dianas, &c., grown from layers, and fine, strong, well-ripened wood they are, too,—none better in the country, we are sure. Further on, back through the woods, you come to clearings filled with fruiting vines, pear and apple orchards in bearing. The soil is gravelly, naturally rather poor, but dry, and made rich by deep trenching and heavy dressings of peat compost, and manure. The Doctor has a mine of peat, muck, and alluvial matter, rich, brown, leafy, rooty, unctious material twenty feet deep; acres of it, which it would glad the heart of an amateur compost-maker to look upon. We saw piles of it, five hundred horse loads in a pile, which had been three years composted. The Doctor is a good student in chemistry, geology, and common sense, and knows how to use his "humus" as well as the best of us, and hence the piles of "carbon and salts," which he is now prepared to sell us in the shape of good Delaware vines at \$3.00 apiece. If this is not a good specimen of modern alchemy, (turning an uninhabited island and old peat bogs into money) we know not what is.

Now go into the Doctor's business office and library, and see the shelves loaded with costly scientific works, full files of the "*Gardener's Chronicle*," for ten years past, &c. &c.; a library equal to the Philadelphia Horticultural Society—see the American horticultural papers and magazines—see the clerk at work—and you will discover that all this is the result of books, advertising and brains.

We taste the new grapes, and a specimen of wine from the Delaware grape, of delicate and richly-peculiar flavor; leave a small order for vines, and take boat again for the main land.

—Sleeping cars for Syracuse; a capital invention, worth the extra price it costs, to get free of foul air, and neck-breaking efforts to sleep in the common night cars.

—Syracuse. Visited SMITH & HANCHETT's Nursery, two or three hundred acres in extent, in search of Pear trees. Found what we wanted, good young stock, budded low, well cut back, and grown on good, strong natural soil, well drained, not forced in old garden soil with stimulating manures. Saw tree agents and customers from all parts of the country. Scores of men digging and packing trees. Everything quite up to Rochester. Prices moderate. Messrs. Smith & Hanchett, are intelligent working men. You may look to see them in the foremost rank among tree

dealers, and the first among prize takers at the Horticultural fairs.

—Cars for Rochester; the chief market for Fruit Trees:

Visited ELLWANGER & BARRY, the most extensive and most successful Nurserymen in the Union. A truly magnificent establishment, in all respects. Elegant buildings, and ornamental grounds; marvellous quantity of stock; hundreds of men at work digging and packing trees; Mr. Barry, too busy to speak to you, almost, yet polite and attentive as he can be; Mr. Ellwanger checking off the orders as they go out; clerks recording the business; tree agents and customers plenty, looking over catalogues and price lists, making out orders, &c. This is Rochester in the fall shipping season. Nurseries lighted up at night to get off the stock, and even some work must be done on Sunday. One agent shipped thirteen car loads of nursery stock in a single day, so says the *Rochester Democrat*.

Visited BISSELL & SALTER, well known propagators of the new native grapes. Intelligent, enterprising men, perfectly posted up, in respect to the quality of all the grapes of any value yet presented to the public. They have genuine stock, from original sources, of Delaware, Diana, and all other desirable grapes. Possess practical and scientific skill, and best business qualities. Bought a few layers from the original Delaware Vine. Tasted all sorts of grapes, from worst foxy to "bags of wine," and got much information.

Looking in at Mr. Hooker's, Mr. Frost's, and others. Nurserymen all busy. Wonderful amount of trade. Called at Mr. Dewey's book store, and got an assortment of his beautiful colored plates of fruits, flowers, and ornamental shrubbery. Tree agents everywhere; just returned from all parts of the country to attend to shipping stock.

Took the cars for Corning, Elmira, Williamsport, Reading, and home; arrived, all right, much edified by the trip.

PHILADELPHIA, November, 1859.

THE YOUNG CREATION.

II.

BY JOS. AMRAM.

MR. EDITOR, and fellow readers in the *Monthly*, assembled—Here I am before you, conjured up once more. If, in resuming my task, I feel a little *aspen-popularly*, I assure you it is no wonder, for there rises to my memory what I felt when, for the first time in life, I saw myself in print in the November *Monthly*. Guilelessly taking up that number, there stared at me out of its pages, my own ghost. I saw myself in the paper, in the spirit, and out of the paper I looked at myself in the flesh: a second sight; an *idem ego*—

a literary egg. But no matter. I march on, and you, if you please, you follow me into my plantation of deciduous trees. You admire those trees, dotted about on the lawn; grouped here in social knots, there in solemn meeting; yonder a pair of exquisite shape, lovingly intertwined, in that corner there a young family circle. "How in the world (I hear voices behind me asking,) can you make trees grow so finely?" Precious little of my doing about it, sir. All I do is—I *plant them young*. One, two, three years old, according to kind, picked carefully from the nursery, taken out with all the roots, rootlets and fibres; a thing easily done with trees so young, sometimes with a "ball," and put in at the right time; some in fall, some in spring, into a bed made large enough for a tree of five times the age, and with an eye to light and air. Then they grow according to their nature's full bent and to your heart's desire. My single trees, (the French garden books call them "*solitaires*,") such as oaks, lindens, chestnuts, etc., gracefully droop their lowest branches towards their mother earth, often sweeping the ground and forming natural bowers, whilst their trunks boldly aspire heavenwards. My beeches, virgin beauties, grow like evergreens from near the ground and so remain.

Can you get older trees to grow the same way? Folly to try it. To make them live at all, you have, when planting, to lop and cut, and mutilate and cripple. "Trimming," some people call that. Trimming, indeed! says Growler, my man.

As a consequence of the age of those "fine big trees" of yours, there die the extremities of important branches, often a whole forking branch and what belongs to it, and as a rule, those lowermost branches; in fact, there dies the natural form and beauty of the tree.

You want instances, my fellow readers. Will you please go to the trouble and pay a visit to a known good specimen of tree, say to a good mountain ash, and see how it forks low down near the ground, how fountain-like it rears its branches, there is the joyousness and grace of a young girl in it. Or to a good horse chestnut; look up into it and see the pillared arch of a leafy cathedral. And then please to go and look at your neighbor's mountain ash and horse chestnut. You do not find there the fountain and the gothic arch? Be sure that "fine big trees" were put in, and that those branches which, in the order of nature, build the arch and throw the jet, have succumbed to frosts and heat.

As a consequence of your *trimming*, you may have saved some limbs, but you have sacrificed the head of the tree. And as a substitute for the lopped off members you started—admirable ingenuity of man!—you started a helter skelter growth, an awkward, stubby, unnatural, violent growth, which makes the

Dryads blush. Could you but hear their cries of anguish!

"Des cieux la tonnerre foudroyante he invites
to fall on your noddly head."

says Delville, whom I have not got handy, somewhere in his "complete works."

Do I fancy somebody saying there: "my trees were put in large, and you should come and see them in the month of June."?

In the leafy month of June, forsooth? Well, at eighteen, they say, all the girls are pretty, but I do not believe it. Besides, the older they get, the less pretty they get, (the girls) naturally; whilst trees, the older they get, the finer should they become. And neither all the girls nor your trees will bear looking at closely even in their month of June. A fine tree is fine at all seasons: in spring, when making toilet for the year; in summer, when full dressed; in fall, when unrobing, and in winter, when nude.

"But, says somebody else there, what am I to do. I have building lots for country residences, two by four, and not a tree on them. Small stuff wont do for me."

I know it, Mr. Somebody Else, you want large stuff, and no nonsense. As you can not get Chinese umbrellas to plant, grafted on ten-foot sticks, which would indeed make fine shade, and can be let down in rainy weather, so you take large cottonwoods, silver maples, etc., top them, and stick them in plentifully. Then comes your citizen, as green as the country he seeks, and you do him as he wants to be done, (not by.) You do not want my advice.

No, Fellow Readers of the *Gardener's Monthly*, and I put my whole soul into this No, do not plant large trees. What satisfaction in young trees! some will even look interesting as babies, just like you and I did, when they will look nothing of the sort when grown up. I instance red cedars, which have been created for the distance, and are the prettiest things when young. Again, the paper mulberry, which had better staid at home in Japan, but as a baby, shows you a most remarkable diversity of leaf, and interests you sufficiently by that. Nearly all evergreens look charming when young, and you can create effects with them; garden scenes, when treated shrubwise, which you can never do when well up, because, then you cannot look down on them. Moreover, the youngest evergreen is as perfect as the oldest; nothing changes with age but the dimensions. Am I right, fellow readers?

You assent, and I get bold and tell you that the beauty of the details of trees can be seen only when they are young, and not above your own height. Go to the young horse chestnut, see how its buds are wrapt up for the winter, and you study Divinity, though not Theology. Go to the same horse chestnut next

spring, and see, day by day, hour by hour, how that bud unfolds, what growing, everchanging beauty,—and fall down, student of Divinity, on your knees to worship Him who gave you this delight. Go when the sun has buried his face under the horizon, and the twilight comes at that hour, go and see the accacias going to sleep, a most touching sight, even for a blacksmith. Turn to the tulip tree, and see the transparent nest of leaves, each starting from its predecessor; or in spring time to the black oak to see its wonderful velvet leaves, or to any of those wonders which only young trees will show and teach you.

And these same young trees will grow up and thank you. Those standing isolated will be each a feast to the eyes, heroes and nymphs. Those growing in groups will harmoniously and affectionately bend towards and grow into each other. The wind will agitate their foliage and their trunks, and will but reveal new beauties of form to your enraptured eye. And when winter does come, you will admire them not a whit the less for their showing you their forms unadorned.

But the cry for shade pursues me! Shade, cries the speculator; shade, cries the new country residencer; shade, cries the maid, washing in the sun; shade sounds from all corners.

I cannot give you shade, crying public, I can only give you counsel. Keep cool and wait, and with shade comes beauty too. Or lose patience, stick in "fine big trees," and be shaded. For the washing maid, who is entirely innocent of your perversity to squat on a shadeless spot—it took you, refined citizen, to do that—for her the trellis, the creepers, and the vines.

Amongst those who take to "country seats," there are a few whose minds bear too deep an impression of the long wielded yard stick, and these few cannot be convinced by the force of beauty, they want figures to go by. Let these country sitters compare trees of same kind, planted under same circumstances, one 5, the other 10 years old, and after a four years' growth let them see how comparatively little time there is saved in the rapid growth of a young tree, and the sluggish progress of an older one, and they too will be satisfied rather to set out young trees.

Finally, and with a deep breath, knowing what prejudices I have run counter to, I appeal, before this august audience, to you, Mr. Editor, as to authority. Our community of the *Gardener's Monthly* will thank you, when you speak and our eyes are on you. You have spoken about the old, speak now about the young creation.

JOS. AMRAM.

[Mr. A., looking upon the readers of the *Gardener's Monthly* as a community and an audience, should have challenged anyone in the meeting to get up and refute his doctrine before he appeals to us in our "awful"

capacity. And we would rather first let our readers sit on this case, and hope the right man will take up the glove.—ED.]

GRAPES AND ROSES.

BY CHEMIST.

PHILADELPHIA, November 9th, 1859.

Dear Sir:—We have queer association of ideas, and in your work you must often have had. When reading your account of the confab on native grapes, poor Kilvington's bouquets came into my mind, and the wisdom displayed in the argument thereon, which, by the by has never been decided for our edification: but in one way it has, by taking the premium from the right owner. But this grape discussion—it ends in the same unsatisfactory way. And no man wanting to buy grape vines could choose which to have from it; he should buy all or stick to the Catawba and Isabella, which still stand No. 1. for all general purposes. I asked you to give us an article from your self. I know, if you do, it will be a reliable one, and the result of your own experience and judgment—opportunities you have had for determining; what we want is hardiness, flavor, and productiveness; with these qualities, white or red, is immaterial, and size of berry is also desirable. A native grape, with all these good qualities has not yet been exhibited, but there is some leaning thereto. Not being a smoker or chewer, I think my taste is rather free from impurities and I have tried some or most of those on exhibition, and if you think it worth anything, I give you my opinion. I would certainly put first the Diana: the bunches are pretty in shape and color, and look handsome on a dish; it is sweet, juicy, and an agreeable aroma, very free from fox and a good grower and prolific and desirable for wine or table.

Concord—a pleasant distinct flavor, good color and size; a desirable grape to make one of a collection, not very prolific, so said.

Herbemont—a small juicy grape, sweet; keeps well on the vine; good color for dark wine, and for wine none better; ripens early.

Delaware—musky, (some would call a little foxy,) a good grape, but to my taste too much praised as to goodness and price, \$3; why?

Powel—a large dark grape, good for table but only preferable to Isabella, if earlier; said not very prolific.

Catawissa—a fair, white kind, worth a trial as the color is scarce. (1)

Clara—if native and, hardy promises to give satisfaction as a white variety.

Rebecca—of good promise, a very handsome table grape; its golden shady hue has an inviting look, and reminds one of the foreign kinds. No doubt but it will be a favorite when we know its other qualities better; plants are selling at a reasonable price. (2)

Union Village—of great promise and being an early ripener, must make way; it has many desirable qualities and a large berry with bloom; sweet, juicy, and brisk; fine for wine and table; very prolific and said hardy. (3)

Brinckle—must not be given up yet, and Mr. John Brook's seedlings from Isabella are of great promise towards an advance to the right thing that we want—productiveness, hardiness, large berry, full flavor, sweet, juicy and good color for all purposes.

There is one more still which seems in the background, and why? Because those in whose hands it is in are too modest to blazon it forth as a *ne plus ultra*, but are letting it bide its time. One draw back, it is a late grape, as late as the Catawba; but it hangs well and bears our early frost; as for wine, it cannot be excelled. Its flavor is not foxy, but as near the Muscat as we have come yet. The bunches are small, but numerous, and may be said to be very prolific; grown in a good situation it can not be beat. But to bring it fairly forward it must get into active hands. The Doctor has it now several years, but we all know he is no quack; and I believe our friend Robert Kilvington has had it also, and he, dear quiet man! makes no fuss about it. Now, the name of this wonder is *Dr. Arroll's Seedling*; a white grape. What do you think of it? (4)

Now I am done with grapes, and intend planting for my own private use, all the above, and giving them a fair trial. Some one will see and eat the fruit off of them in a couple of years, if I or you do not.

I think I said I would give you something on roses, but will not until spring. All I shall say, that those who want good flowers next year, should plant their hybrid perpetuals and other hardy ones now while the season is fine, or as early as possible in spring, not waiting to see the flowers. If they buy from a reliable grower, they will not be disappointed. Roses in pots and forced under glass for market sales, seldom, if ever, give satisfaction; always tardy, twisted roots, and if not well planted, not one of the hy. per. will give fine flower in the whole year after. Plant those now on their own roots if you can; spread the roots in good rich soil and cover over with leaves or coarse litter, prune low in spring and you will have fine flowers in profusion. (5)

Many have a prejudice to budded roses, but get them early in spring, set below the bud, prune properly, and no fear you will have the worth of the money. Do not wait for market flowers; rather wait to see the first bloom in your own garden. In England, they seldom bloom their perpetuals in spring, they wait until autumn for these, and prune close. Daily and Bourbons, &c., fill their gardens with abundance of bloom until august comes, when the others blaze forth, covered from, as we may say, stem to stern.

Try it on a few, it is worth the trouble and patience. But I have done for this time. C.

[(1) The Catawissa is a blue grape we believe, and from the only opportunity we ever had of testing it, formed no high opinion of its quality.

(2) The flavor is *superb*; but our vines mildew a little.

(3) A foreign variety, though raised in Philadelphia, does not mildew, and seems, so far, to stand well. The fruit is very fine, and a correspondent tells us, makes excellent raisins.

(4) It is a very abundant bearer, and most of our pomologists speak highly of it as being a very superior wine grape. But we have never tested the wine, and whenever we have tasted the grapes they never seemed ripe enough to warrant a good opinion.

(5) Excellent advice.]

MR. OTT AND THE DELAWARE GRAPE.

We have been inundated with letters in reference to Mr. Ott's article in our November number, the gist of them all being that that gentleman must have been deceived in his idea of having the true Delaware grape. We had prepared a digest of all the matter sent us, and, indeed, had one or two articles in type, when we received the following letter of recantation from Mr. Ott, himself:

"DEAR SIR—Your allusion to the Ruff Grape, in the note to my article in the November number of the *Monthly* as being the true Delaware, led me to take a trip to the place where it grows, and I find I have been sadly deceived in the identity of mine, though they resemble each other so much that it would take a close examination to detect the difference from sight alone. Mine has quite a strong foxy odor, and is the worthless grape I have described it to be. The Ruff Grape I find to be sweet and good.

Finding that I have made a grave error, I have been riding about the country for the past two weeks in atonement, determined to learn all I could respecting it, and also determined, if possible, to find out where the first vine stood, and will communicate all I can find. The oldest person that I met with in my trip that has the true Delaware, or "French fruit," as he called it, is about eighty years old. He got the Delaware (and another blue grape, which he thinks as good,) from New Jersey, a great many years ago, by the name of French Grape. I then visited the original place in New Jersey, but the old gentleman being deceased, his son told me that his father had twenty-five varieties of grapes, but of these the Delaware is the only one that is now alive, and that it was there as long as he could remember, which is about twenty-five or thirty years ago.

Nearly all the vines that I visited through the country are in very poor condition, through neglect. They are nearly all growing over currant bushes, garden fences, or anything they can get hold of. Those on trees, some twenty or thirty feet high, look best. I saw one vine that is about four or five inches in diameter three inches from the ground. The invariable report is that they were great bearers, and not subject to mildew. One old lady remarked, they made very good pies while green, as the skins were so tender. No one praised it for cooking when ripe, as they were too sweet. Another told me that they grew so close in the bunches that if there were a rotten one, she had to use a knife to get it out. Those persons that have their grapes on trees get very few, as the birds are too wide awake for them."

Mr. Ott encloses also, some other matter in reference to his success in finding the Delaware grape, for our advertisement columns, which will be found in its proper place.

We were before struck with the singularity of Mr. Ott's remarks, and took the opportunity to state that his experience, supposing his vine to be correct, was "quite exceptional." Mr. Ott's present letter confirms us in our views then expressed, that there are many forms and varieties of grape, all referable to one type, of which the Delaware is the popular representative, and which abound in the particular region we have named.

Another very important fact now appears for the first time; namely, that there are grapes in existence resembling Delaware, but comparatively worthless, and yet can be readily mistaken for them. This should indicate great caution, and we should be afraid to purchase any vine unless we knew it had been produced from vines that had fruited under the hands of some experienced pomologist.

One of our valued friends writes us that in his opinion Mr. Ott's letter should never be published. We hold different views. When a correspondent makes a statement of facts, or of his impressions, under his proper name and address, he is entitled to a hearing, no matter if all the world is against him. If he is mistaken, we have no fear of the facts being smothered in our paper. Moreover, the result shows we were right. The Delaware comes out of the skirmish victorious, and with a higher character than ever. Mr. O. was rather sharp, without, we are sure, intending to be personal in his employment of the term "humbug," but his acknowledgement that he was the party "humbugged," is full atonement.

From two of the communications we have received, we make extracts, as they contain additional information not before recorded in our columns. The first from Mr. Campbell, of Delaware, Ohio.

"It was brought to this neighborhood, perhaps

twenty years ago, from New Jersey, by persons who believed it to have been originally brought from France; but they called it the Italian Wine Grape.

I found, however, upon making close inquiry, that there was a discrepancy in the statements of different persons; some claiming that the Delaware was of larger size, and differing in flavor from the "Wine Grape." I formed the opinion, from the appearance, growth, and hardness of the vine, that it must be a native; and I thought it most probable that it was a hybrid, produced by seed of some native variety, fertilized by pollen from this "Italian Wine Grape."

Your idea, that the variations in the bunches arise from different sources, point to different seedling origins, is probably correct; and the differences in habit of growth, productiveness, and even in quality, may also be accounted for in the same manner. And upon this supposition, your correspondent, Mr. Ott, may have a grape resembling the Delaware in some general characteristics, but as he himself argues, worthless on account of inferior quality and non-productiveness.

I sincerely hope, Mr. Editor, that you will, as occasion presents, pursue your investigations as to the origin of the Delaware grape. If it is a true and unmixed native, and there are vines in various localities bearing all its high characteristics, so much the better. And let those who are satisfied that they have it true, increase it as rapidly as possible, that it may be placed within the reach of "the million," and thereby do a real service to the cause of horticulture. This, in my judgment, would be much more sensible than crying "humbug," or offering cart-loads of cuttings of worthless varieties."

Mr. A. Thomson, the gentleman to whom the community is indebted for first bringing the grape into public notice, in addition to similar views above expressed by Mr. Campbell, says:

"It is an extraordinary fact, Mr. Editor, that such a grape as the Delaware—a fruit that has received the unqualified commendation of every prominent horticulturist in the country—passed the ordeal of all the pomological varieties and committees with flying colors—that has by almost unanimous consent been assigned the proud position of *first and best of American grapes*,—which from its surpassing excellence, would anywhere, or under any circumstances, at once attract the attention of the merest Tyro in the most uncultivated taste. It is, I say, extraordinary that *such a fruit* should, for the space of thirty years or more, be grown in the vicinity of Philadelphia—a city noted for the number of her intelligent and discriminating horticulturists, and remains unnoticed and unappreciated."

* * * * *

"Is there any person who has purchased a Dela-

ware, (not a Red Chasselas, Traminer, or the "Swiss" variety,) but a true and genuine Delaware, even at the highest price it has ever commanded, and grown it long enough to see and taste the fruit, who would acknowledge himself humbugged? If such a man exist, I have not heard of him, nor do I believe any other person has."

* * * * *

"I repeat, I do not assert that the vines referred to, as growing in Chester county and elsewhere in that region are not the Delaware, though I have as yet had no proof to satisfy me that such is the fact. But I do insist that such discovery (if really made) does not make the grape an inferior one."

* * * * *

"Any ray of light on the subject, from whatever source it may emanate, will be received with pleasure and thankfulness by the brethren in this region, who, while they do not claim the *Delaware* as theirs by virtue of *birth-right*, do think they can safely and fairly claim, that by *adoption, acclimation* and *naturalization*, they possess much interest in it, and are entitled to the exercise of such guardian care over it as will warrant them in defending it against unmerited assaults, from whatever source they may come."

* * * * *

We may here observe that Mr. A. Thomson is mistaken as to the locality where the Delaware is so common as to be almost wild, (if not quite,) being in the vicinity of "Philadelphia Pomologists." Mr. Ott's is perhaps forty miles from Philadelphia, in Bucks, and not in Chester county, and in a country which, until the opening of the North Pennsylvania Railroad, two or three years ago, was not so much known to Philadelphians as the remotest village in Ohio; fully accounting for their ignorance of the grape's existence there.

FLOWERING OF THE CHINESE POTATO.—A correspondent of the *Southern Planter*, writes of flowering this plant, and describes it as having "white blossoms, succeeded by pods filled with fine seeds."

If this is not a mistake, it is probably the first instance on record, as the plant is dioicous, and has hitherto proved barren.

[Translated for the Gardener's Monthly.]

FLOWER STAND AND FOUNTAIN.

By A. F., PITTSBURG, PA.

The desire to furnish the refreshing foliage and the charming flowers of the vegetable kingdom, during the time of year when we are compelled to remain within doors, has led to the construction, for a great

length of time, of stands for flowers, and lately fountains have been added to enliven these delightful ornaments.

The fountains are always supplied by water from an elevated reservoir, and are attached to one spot, or can only be removed to a short distance by extension of the supply pipes and other alterations. Besides the great expense of this arrangement, the space required is a great inconvenience, especially for a dwelling. This difficulty, which has occupied my attention for a long time, I have now overcome, and discovered a plan for making a fountain by means of pressure of air; and flower stands arranged on this principle can be removed, at pleasure, from one place to another without stopping the jet for a moment.

The accompanying cut, figure 1, is a design of this kind, suitable for different materials, wood or iron, the form and size of which can be varied according to the taste to be suited and the skill employed, from the most simple and cheap, to the most elaborate and luxurious.

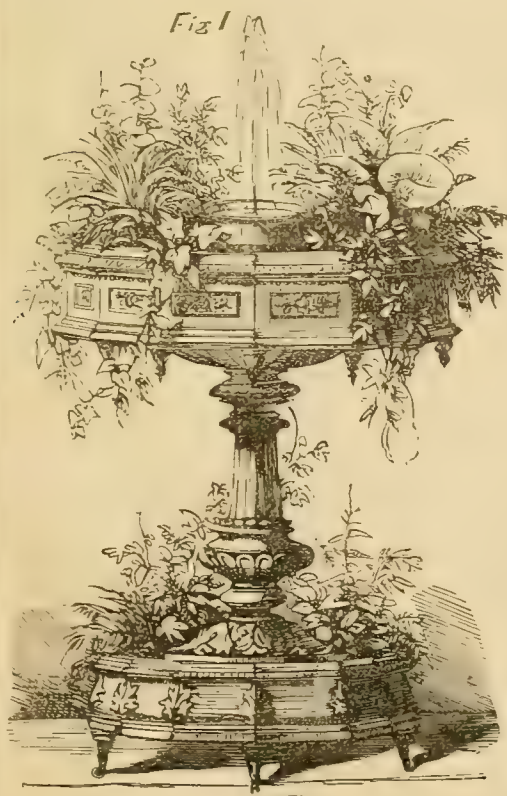


Fig. 1. Fountain by air pressure in a cast-iron stand.

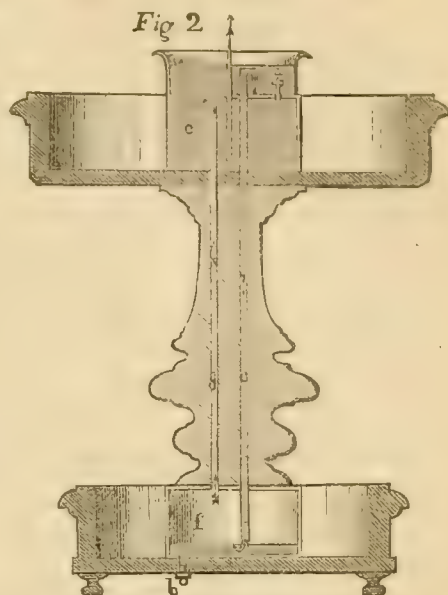


Fig. 2 represents, in section, this simple contrivance.

The water apparatus consists of two zinc reservoirs, japanned to prevent rust, (*e.* and *f.*) of equal size, one of them placed in the upper and the other in the lower part of the stand. Both are connected by means of two pipes, *c.* and *d.*, which are inserted in the leg of the stand, and all except the ends of the pipes, closed water-tight. Care must be taken that the pipes are arranged properly, or it will not be successful. The upper pipe *c.* must reach down low enough in the lower reservoir to allow the water to flow, but no air to run backwards. The pipe *d.*, through which the compressed air travels from the under to the upper reservoir, should be inserted in the upper side of the lower reservoir and project almost to the top of the upper one, so that no water can pass through this pipe.

The upper reservoir has an addition, in the form of a basin, in the bottom of which, on a little elevation, is a hole, closed by a screw, where water can be poured in with a funnel. The short pipe in the middle of the basin, from which the jet proceeds, must be inserted close to the bottom of the upper reservoir.

When the upper reservoir has been filled with water, the hole is closed with the screw, and the same fluid is poured into the basin until it flows through the discharge pipe into the lower reservoir. As soon as the stream has begun, the fountain commences to play. The water accumulating in the lower reservoir, drives the air therein through the pipe *d.*, into the

reservoir *c*, compresses it there with a pressure equal to the weight of the column of water in the pipe *c*, upon the air in the lower reservoir, and in this way the water is forced through the small nozzle of the basin pipe, into the atmosphere above, and fall again in the basin, whence it flows into the lower reservoir and continues to do so until the contents of the upper reservoir are expelled.

The larger the reservoir, and the smaller the nozzle, so much longer will the fountain continue to play with uninterrupted force. The jet ceases as soon as all of the water has been ejected from the upper reservoir, when that in the lower reservoir can be withdrawn by the small stop-cock *d*, in a convenient vessel, and the upper one refilled, and the same circulation takes place again.

The above I have translated from C. Schiekler's Bulb Catalogue, Stuttgart, for 1859, thinking it might possibly aid some of our readers to adorn their parlors by an easy and ingenious method. The apparatus, which could be made at a low price, of galvanized iron, to prevent rusting, could be fitted to a marine aquarium, and supply a desideratum for aerating the water which has been felt by those having this object of pleasure, and at the same time increase its beauty without much additional expense. A. F.

Pittsburg, November 20th, 1859.

KNOTS ON THE PLUM TREE.

BY HORTUS, GALESBURG, ILL.

Mr. Editor:—Permit me, through the columns of the *Monthly*, to make a few remarks on this "knotty" question.

It seems to be an opinion in some quarters, that these knots are caused by the sting of the curculio, and I notice in this connection an article in the November *Horticulturist*, from which the following is an extract:

"A number of branches, with their knots, were placed under a bell glass, the 10th of July, and on the 2nd of August, twelve perfect beetles arose from the earth, and returned to the branches on which they had fed while in the grub state, &c." Again, "On a further examination of the trees on the 23d of August, I found new swellings on the branches, and on opening some of them, found the the half grown larva of the Plum Curculio, (*R. Nenuphar*), feeding as their parents had done in June."

The Curculio, it is more than probable, will attempt to deposit its larvæ either in the plum itself, the young and tender green shoots, or the knot when in its incipient state. Marks might be apparent all over the shoots, and yet I think not cause the plum knot, for the following reasons.

I have been a cultivator and close observer of the Plum in a variety of soils and situations, for many years. I have frequently noticed two trees together, with their branches, in some instances, interlacing—the one covered with knots, and the other smooth, clean and healthy. Is the "little turk" so discriminating in its taste as to prefer one tree to another, when it will not make the same distinction as to the plums from those trees? I think not.

But this supposition approaches nearer to a certainty if we proceed to carefully dig up the trees. Then we shall find the plums bearing the knots to have also few or scarcely any surface roots, but only a very few, perhaps but one, top root running straight down into the subsoil, and not only this, but also bearing knots along their length to the depth of 18 inches to two feet. On the tree bearing no knots in the branches, we find the roots full, healthy, numerous and fibrous, all on the surface, no top roots and no knots.

The Curculio cannot, of course, dig down two feet into the earth to deposit its eggs amongst the roots, to cause those knots, and we have to look to other causes for their appearance.

My own idea is that the roots become unhealthy by penetrating into a cold uncongenial subsoil. By July and August the work is done, the sour sap has been brought up and disseminated through the system, and like animals when fed on improper food, produce bad blood, and have "breakings out" on the skin, so in like manner the "bad sap" breaks out into knots, forming, even when very young, as good amarus and pabulum for the larvæ, as the plum fruit itself.

I have transplanted a great many trees that were subject to knots, and in every instance where the soil was deep and rich, after the first or second year they become smooth (cutting off the knots as they appear) and so remained as long as the roots kept near the surface. Some soils will not grow healthy trees without a great deal of labor, owing to its being too cold and sour. A plum tree requires a rich, warm soil, and plenty of decomposed manure forked in about the roots. A very judicious plan for those who plant orchards, would be to buy trees one year from the bud, and transplant the next and following spring, (the object being to destroy the tap, and obtain fibrous roots,) then plant in the orchard, and unless the soil is very wet and clayey, smooth wood will be the result.

[In the South of England it is a very common practice with the peasantry to plant an earthenware milk pan under their plum and walnut trees, to keep, as they say, the "roots from going down." As friend Longworth tells us sometimes, we may learn a great deal from "ignorant market-women;" and on other subjects besides "strawberries."—Ed.]

SEEDLING STRAWBERRIES, &C.

BY R. P. R., QUINCY, ILL.

Mr. Editor:—I want to tell you the result of a strawberry I raised two years ago, last spring. Nothing wonderful perhaps; a first attempt at hybridizing with me. I took *Longworth's Prolific* and crossed it with a Pine strawberry and got twelve plants. This was about 180 miles above Milwaukee, Wisconsin. I took them up, brought them here, and on the 14th of June, I picked berries that were $3\frac{1}{2}$ inches in circumference, and nearly 2 inches long, the shape of a pine apple. They stood out, unprotected, all last winter, in latitude about $44\frac{1}{2}$. I have transplanted about 4500 of these, this fall, $3\frac{1}{2}$ feet by 2 feet. I have the *Triomphe de Gand*, the *Early Scarlet*, the *Marilandica*, and another. I did not give these plants a particle of manure last season.

I see, Mr. Editor, that there are a great many strawberries, and almost every one has its advocate; some may think this is singular, but I presume it is altogether owing to the climate, soil, situation, and the manner of culture. What does well under one treatment of culture, situation and climate, fails under another. I am just beginning to prepare a little home of $2\frac{1}{2}$ acres, just out of the city limits, (of this Quincy.) If I thought it would be at all interesting to your readers, I would send you a sketch of it. The situation is beautiful, but bare of trees, which I lament. Still, I can plant them; then the pleasure of seeing them grow almost pays for being destitute of large ones at first. There is nothing that I know of that affords so much pleasure, united with anxiety and interest as the growing of trees. Let a man plant out a grove, in which he takes an interest, and you will find that there is no other one thing that will bind him to his home like his grove. It becomes as a part of his family, and it is the next thing to his family. There is nothing that adds to home so much life, spirit, and gaiety as more or less trees, as the place demands.

CULTURE OF HORSE RADISH.

BY PETER HENDERSON.

JERSEY CITY, N. J., November 29th, 1859.

Mr. Editor:—In your issue of last month, is a communication on this subject, which may be suitable enough when a few dozen roots are wanted, but which would hardly, I think, be a "paying" crop even at "10 and 12 cents each," if so much labor was necessary to produce them. Horse radish, as we grow it in our market gardens in this district, is the most profitable of all *second crops* which we raise, simply because it requires a peculiarity of soil to grow it well; namely, a deep, highly enriched sandy loam.

Our mode of culture is very simple; the setts are procured when trimming off the marketable roots in

winter; varying in length from six to nine inches; they are tied in bundles of fifty or sixty and buried until spring. Immediately after finishing our planting of Early Cabbage in March or April, we begin the planting of horse-radish *between* the rows of Cabbage, (which are planted 2 feet apart, and $1\frac{1}{2}$ feet between the plants.) Holes are made with a light crowbar, 9 or 12 inches deep, and the setts of horse-radish planted perpendicularly, from 2 to 3 inches under the surface, same distance apart as the cabbage.

Being thus planted under the surface, it makes no growth of any consequence until the cabbage crop is cut off, when all the further labor required until it is dug in December, is merely to keep it clear of weeds, which is done wholly by the plough. Our roots, by this treatment, will average about three quarters of a pound each, which, at 5 cents per pound, gives a return of between \$350 and \$400 per acre.

It is principally sold to parties making a special business of grinding it and bottling it up in vinegar, in which state immense quantities are sold. The party that I sold to last season, informed me that he had purchased *nearly twenty tons*.

THE CUYAHOGA GRAPE.

BY DR. EDWARD TAYLOR, CLEVELAND, OHIO.

Thomas Meehan, Esq:

DEAR SIR:—The favorable notice you gave of this grape, which only corresponds with the opinion of many of the most distinguished pomologists of the country, to whom samples were sent, has brought me a large number of letters of inquiry in regard to it, and applications for cuttings and vines. My brother nurserymen will readily excuse me for not replying promptly to a large correspondence at this busy season; and you, sir, would greatly relieve me if you would publish the Report of the Committee of our Horticultural Society, in regard to its history, character, etc., as it would meet many inquiries in regard to it. I would also beg, through you, to say to many who have addressed me on the subject, that the few vines that were of it, have been secured by C. H. Robinson, Esq., of this, who intends propagating it, and will have it for sale in another season. He would not dispose of any of the cuttings. It might be well to state that some Eastern men have had the neighborhood thoroughly canvassed and have probably supplied themselves with cuttings of *some* kind that will be offered as the genuine.

Yours very truly, EDWARD TAYLOR.

CLEVELAND HORTICULTURAL SOCIETY.

Adjourned meeting, October 10th, 1859, Joseph Perkins' Rooms, Public Square, Dr. E. Taylor, President, in the Chair.

REPORT ON C. H. ROBINSON'S GRAPE "CUYAHOGA."

The committee to whom was referred the grape presented by C. H. Robinson, would report, that they have visited Mr. Wemple, a gentleman whom we believe to be worthy of the highest confidence, who gave us the following information in regard to it: About ten years since, he was sitting in the door of a store, in the town of Euclid, and observed between the steps a small seedling grape vine one or two inches high. He took it up carefully, and planted it near his residence, where it soon grew up and bore fruit that he was much pleased with. He soon afterward sold his farm, but had made a layer which he took up and planted at the West end of his present residence, where he found it growing. He says it has been there about five years, and it is now a strong, healthy vine; some of the branches have grown about twenty feet this season. It is in a deep, sandy loam, but has evidently had no extra culture. The foliage and growth much resemble the Isabella. He states that he has never given it any protection—that the wood has never been damaged by the severe winters—that it has never shown any disposition to mildew or rot, which the Isabellas, close by, have; and that it has uniformly borne a good crop of fruit, equal in amount to the Isabella, and matures one or two weeks earlier. The bunches are about as large, but not so compact, and the berries, about the same size and shape as the Catawba, under the same cultivation. The color is a light transparent green, with a thick white bloom—very little pulp, with a brisk, agreeable flavor.

There has been so much crying of "Lo here! and le, there!" in regard to new grapes, that we feel much hesitancy in recommending another to public attention; but we have a strong confidence that this will prove to be well worthy of a place among our choicest varieties of hardy grapes.

EDWARD TAYLOR, }
H. B. HURLBUT, } Committee.
JOSEPH PERKINS. }

[We also learn from a private source that Mr. Robinson, not being engaged in the nursery trade, will not offer them for sale himself, but proposes to propagate them and place them in the hands of a nurseryman of character, (probably our friend Dr. Taylor,) who will receive orders for them, for him at \$3 each, and supply them as they are propagated, in the order the applications are received.

STRAWBERRIES.

BY R. REEVES, KEYSBURG, KENTUCKY.

Mr. Editor:—There has been much said about Strawberries, and many new and valuable varieties are advertised; what has been written shows great interest and improvement in strawberry culture. So

far as I have seen here, Wilson's Albany Seedling Strawberry stands preeminent. I have been experimenting, myself, with raising seedling strawberries, and have several distinct varieties of great merit, one of which has equalled the best crop of Albany seedling that I have seen any account of, viz: 28 quarts to sixty square feet of ground. Last June a year, I planted, of my seedling, a row thirty feet long, (about twenty vines,) and allowed the runners to grow and set a space of about two feet wide, from which I gathered twenty-eight quarts of fine berries; the largest about $1\frac{1}{4}$ inch in diameter. The land was what would be called thin; I dug it one spade deep, and planted without manure, making no effort for a large crop. The berry is a beautiful scarlet, with a fine neck and is easily capped. Flavor, good. I regard it one of the best berries I ever saw.

I have another fine berry which I call Long Stem, from the length of the scape, of which I have measured and found some to be sixteen inches long. The berry is large and fine, and the plant very vigorous. I have several other seedlings, but mention only those which I think possess great excellence. I am aiming to produce a few new ones every year and may, after due trial and strict examination, offer to the public, some as good as can be produced.

[Happy to hear of your enthusiasm, and hope you will continue to persevere. However, good strawberries are easily raised, even so good that they may be considered of the "highest excellence;" and this very fact renders the production of a *superior* strawberry a very difficult thing to accomplish, to what it was a few years ago, when good kinds were scarce. —ED.]

ROSA CANINA.—ITS FRUIT.

BY A LADY.

Mr. Editor:—Having seen the discussion in your paper about Champagne Rhubarb, or Rhubarb Champagne, I do not know which is correct, also the recipes for Currant wine; I feel encouraged to say a word about *Hagebutten*, as we call them in Germany.

It is the fruit of wild roses growing along our hedges, which, when pulled ripe, are most excellent for stewing. Sometimes we mix a few raisins with them. As a jelly or sauce, it is the nicest thing to pour over farinaceous puddings, such as corn-starch, farina, etc. The enclosed recipe is at your disposal if you deem it worth a corner of your valued periodical. With respects, Mr. Editor,

HELENE K.

[We are sorry not to find the enclosed "recipe." Will the Lady be good enough to supply it? We have, years ago, tasted the dish and found it an excellent one. English boys eat the "hips and haws" since time immemorial.—ED.]

**GERMANTOWN SEEDLING
STRAWBERRY.**

BY A. W. H.

My Dear Sir:—I enclose a leaf of the Germantown Seedling Strawberry from one of a hundred plants obtained last year from Mr. Young. With me it has proved a very distinct sort from the Hovey or any other kind.

In habit it more resembles the Peabody, having long footstalks, large oblong leaves, a loose open head, the crown rather weak, not firmly bedded in the soil, and the lower leaves turning brown during any moderate drought. The blossom is larger than Hovey's and hermaphrodite. The fruit resembles Hovey's in shape and size though much more uniform,—color light crimson, nearly scarlet,—and the apex of the berry is covered with a pearly bloom, such as we often see on decaying fruit of other kinds.

In conversation, last summer, with a distinguished horticulturist and member of the Pennsylvania Horticultural Society, I mentioned the Germantown Seedling approvingly, to which he replied "That is the Hovey." At his request, I sent him a plant in fruit, which I had potted for the purpose.—He pronounced it a distinct plant, and I am informed, that, at the ensuing meeting of the Society, a premium was awarded to A. L. Felten, for the "best Germantown Seedling Strawberries." I have seen the plants in fruit, in a market garden, near by, bearing most abundant crops, of large size, and fine flavor. Mr. Young, also, assures me that he picked, year before last, from 3-16ths of an acre, 1200 quarts. He manures heavily, I believe, with night soil. This plant should be grown in stools and have the highest culture.

My own bed consists of 100 plants received from Mr. Young late in the Spring of 1858, long after my other plantations were completed, so that no mixture of sorts, or error in nomenclature, could have taken place on my grounds.

I think I have proved that, if any one is in the wrong, it is not

A. W. H.

[Leaves of A. W. H.'s Germantown and Hovey, separately accompanied the communication, and proved their distinctness. We have noticed that some strawberries bear pistillate and hermaphrodite flowers on the same root stock; McAvoy's Extra Red for instance; and in that case, the fruit from each kind of flower is different from the other in shape and appearance; so much so that they might readily pass for different varieties. We suspected something analogous with this kind, but from the present evidence, and from what we have observed ourselves this season, we are compelled to believe there is, after all, a "Germantown Seedling" Strawberry. Mr. Young has probably sent out spurious ones himself.—ED.]

Books, Catalogues, &c.

G. W. Campbell, Delaware, Ohio. Catalogue of Grape Vines, with descriptions of kinds offered.

Horr & Bebee, Dubuque, Iowa. Fruit and Ornamentals; including the Kilby and other grapes.

Franklin Almanack for 1860. B. F. Sanford, Cincinnati, of the *Ohio Valley Farmer*, and like that useful publication, one that will not fail to interest whoever reads.

Address of Sydney G. Fisher at the Montgomery County (Pa.) Agricultural Society, we have read with a great deal of pleasure.

Buist's Almanac and Garden Manual, Philadelphia, for gratuitous circulation, we are pleased to welcome. Besides the full Catalogue of Garden Seeds offered for sale, it is filled with full particulars for raising each kind, and crop; besides other chapters on Hotbeds, Manures, Window-Gardening, Growing Mushrooms, Fruit Culture, &c. Gratuitous information is frequently undervalued, a fate which we are certain will not befall this little pamphlet.

J. W. Jones, Charleston, S. C. Roses, Camellias, &c. This is by a long way the handsomest Catalogue we have received this year. We have a passion for beauty, from handsome women down to mushrooms and fungi, and Mr. Jones' Catalogue has given us great pleasure. The matter, also, is as entertaining and as novel as the execution.

New or Rare Plants.

NEW FERN.—*Lycopodium Selaginella rubricaulis*, has just been introduced into England. Its stems are coral-red, its leaves small, and of a shining variable green. In habit it resembles some elegant little Thuja, Libocedrus, or allies.

New plants noticed in the *Deutsches Magazin*:

JACQUEMONTIA VIOLACEA. A native of Porto Rico. A very pretty climber of the Morning-Glory or Convolvulus section; the sky-blue flowers and the fresh, green leaves forming a very pretty contrast.

BROWALLIA VISCOSA. Praised as a very pretty bloomer. Description answers to the *B. elata* already in cultivation here, and inclines us to think that there is but a change of name without distinction.

ACER JAPONICUM ATRO-PURPUREUM. A blood-leaved Maple from Japan. Small tree, said to be pretty.

PEONIA ARBOREA "FREDERIKA APPELIUS." The latest and showiest of its kind. A real "bouncer," if one may thus speak horticulturally.

The Gardener's Monthly.

PHILADELPHIA, JANUARY 1, 1860.

✉ All Communications for the Editor should be addressed, "THOMAS MEEHAN, GERMANTOWN, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY, Box 406 Philadelphia."

THE NEW FORM.

We have recently received frequent letters from our subscribers, urging us to adopt, in the second volume, the octavo form, as being more convenient for use and binding. The quarto size was adopted principally from motives of economy, and also that this form appeared to possess some advantages as an advertising sheet, but as the present large circulation of the paper seems to warrant a further expenditure on it, the publisher has concluded to accede to what he believes to be the wish of the majority of its readers, and he now lays before them the result, with the confident hope that the change will be generally approved. The form adopted, it is believed, is new in this country, and combines the advantages of both the quarto and octavo form, and well adapted to advertisements, and as it is believed to be the most convenient form for all practical purposes, the subscribers may rest assured that it will not be changed hereafter, on any consideration.

With but few exceptions our subscriptions commenced with the First of January last, but to those few subscribers who commenced on the First of July, the back numbers to complete the first volume will be furnished at the low rate of 6½ cents per copy.

The change of form and the increase of size has involved the expenditure of a large sum, which the publisher hopes will be appreciated, and be the means of adding greatly to the circulation.

✉ The subscriptions for the ensuing year are now due, and unless paid before the First of February, we shall be compelled to discontinue mailing.

Bound copies of the first volume can be furnished in neat and substantial style, for one dollar and a half.

EVERGREENS.

If it is hard "to lend fresh interest to a twice told tale," how shall we be able to get the spirit of our readers to go with us into a subject that has been so often discussed and so continually talked on, and written about? But in truth too much cannot be said of it, especially at this season.

For winter is, of all seasons of the year, the one in which Evergreens appeal the most affectionately to our feelings; and after the joyousness of summer flowers

has departed, and Autumn has stored her ripened fruits partly into the lap of mother earth, and partly into our cellars and fruit rooms, we almost with impatience look for the advent of winter, that we may enjoy the vigorous beauty of the Evergreen tree.

Nature knew better than to color the Holly berry at midsummer, for even the rich and noble leaves of the *Magnolia grandiflora* are forgotten in the delicious fragrance and spotless purity of its glorious blossoms at that season.

No one loves Evergreens in summer. The Connoisseur, to be sure, *admires* them, and he who appreciates their winter beauty cannot, of course, pass them at any season without a certain feeling of respect; but to love them while the rose is blooming—while the verbena is dazzling you with her brilliant beauty, or while the honeysuckle kisses your cheek as you sit beneath your arbor's shade, and bewitchingly woos you with its charming fragrance, we say, to love them under these circumstances requires a degree of constancy and fidelity few of us can claim.

But what of all this? Simply, dear reader, to suggest to you the fitting places for your Evergreens to occupy. Those parts of your ground that you would devote to gorgeousness and gaiety, should have Evergreens sparingly introduced to it. A few are allowable; nay more, are all right and proper, for even as in our most prosperous and happy times, a slight reminder of sorrow to come, serves as a chastener of our pleasures; so do a few Evergreens, here and there interspersed with gay flowers and summer luxuriansness, serve to soften down whatever of grossness they may suggest, and give them a refined and cultivated appearance, which no other race of plants can bestow.

In the main, Evergreens should be planted where they will most cheer by the winter view; where they can be easily seen from the drawing or sitting room; or enjoyed from some cosy nook where we, in a winter's day, may bid defiance to the cold north wind.

We were speaking of Evergreens as an object of beauty. We must say a word for their utilitarian purposes also; and first and foremost, as a screen and shelter for all the rest of the ground. Wherever there are unsightly objects to be hidden, or buildings or tender trees and plants to be protected, Evergreens are invaluable; and in this respect, no one who has not experienced their good uses can imagine their importance. Shelter from the cold quarter by a belt or mass of Evergreens should be as much a part of a well designed place, as the kitchen garden or pleasure ground. Another use to which they are of all things the most fitting to be employed, is to plant along the boundaries; to hide the limits of our little lots; and to encourage the innocent deception in our own breasts, that our twenty acre lot, so called,

is in reality, forty or more, the figures and Surveyor's "plans to the contrary notwithstanding."

The following is a list of the Evergreens of the largest growth that are hardy in most parts of the United States: SPRUCES—Norway, Hemlock, White, Black, Eastern (*A. orientalis*), Menzies, Morinda, (though injured a little when young.) The *Abies lasiocarpa* is also said to be very hardy. FIRS—Balsam, Silver (injured a little while young,) Cephalonian, *Amabilis*, Nordmann's, *Nobilis*, *Grandis*, *Pichta*, *Pindrow* and *Pinsapo*. PINES—Austrian, Corsican, Himalayan (*exelsa*), Russian (*Pallasiana*), *ponderosa*, pyrenean, white or Weymouth, Scotch, *palustris*, Benthams, Lamberts, Jeffrys, Red Pine (*mitis*), Washington Tree (*Wellingtonia*.) Trees of smaller growth that are generally hardy, we may name—Hudson Fir, (*Picea Hudsonica*), Frazer's Fir, Cembra Pine, *Pinus inops*, *Pinus pungens*, Mugho Pine (*P. montana* and *pumilio*.) ARBORVITÆS—Chinese, *Glauca*, Weeping, American, Blue Spruce, (*Abies cærulescens*), Red Cedar.

Shrubs or very low growing trees, Dwarf Scotch Pine, Golden Arborvitæ, Tartarian, Siberian, Upright (*stricta*), *Cephalotaxus Fortunei*, White Cedar, (*Cupressus thuyoides*), *Juniperus oblonga pendula*, also, *J. Squamata*, *J. Bedfordiana*, Common, Chinese, Irish, Swedish, Heath-leaved, prostrate and Savin. Tree box of all kinds. *Thujiopsis borealis*, English Yew, Weeping Yew, *Kalmia latifolia*, *Rhododendron maximum*.

The following shrubs and trees usually do well at Philadelphia and southward.—*Abies Douglassii*, Cedar of Lebanon, Deodar Cedar, *Cryptomeria japonica*, American and English Holly, Canadian Yew, *Coloneaster microphylla*, *Pyracantha*, Japan *Euonymus*, *Rhododendron Catawbiense*, *Mahonia aquifolia*, and the Japan species, *Cunninghamia sinensis*, *Abies Brunoniana*, *Auracaria excelsa*, *Cephalotaxus adpressa*, *Cupressus funebris*, (South of Washington,) *Cupressus torulosa*, *Pinus palustris*, Aleppo Pine, Sea Pine, Stone Pine, *Pinaster insignis*, *Pinus nivea*.

Some of the above are still scarce, but as their hardiness for the specified localities, we have verified; they will doubtless soon become common.

We shall be glad if any of our correspondents will from time to time add to the list such as they may find to do very well with them.

SHADING GREENHOUSES.

M. BOUTIN, in the last number of *La Revue Horticole* recommends common tallow for this purpose. It should be slightly heated in an earthen vessel, and applied with a cotton rag to the glass when in an unctuous state, neither cold nor warm. We apprehend that, on a very hot summer day, the tallow would become fluid, and drip down on the plants. Perhaps Spermaceti or Stearine might answer better.

Some of our nurserymen who do not care for appearances, have used for this purpose, plastering laths nailed on the upper side of the rafters above the sash, leaving openings of about an inch between the laths. One advantage about this mode of shading is that it answers even when the sash is lowered. Where neatness is desired, nothing looks so well, and is at the same time so efficient and durable as sugar of lead ground in oil. It can be procured at almost any color shop, and resembles white lead. It should be greatly diluted with spirits of turpentine, and put on very thin with a brush. In putting it on, the brush should be kept very dry, and but little of the material should be used; in this way it is more evenly distributed over the glass. This is the material used by painters to produce the effect of ground glass.

BIOGRAPHICAL SKETCH OF THE LATE THOMAS NUTTALL.

[For Portraiture see Frontispiece.]

MR. THOMAS NUTTALL, was born at Settle, in Yorkshire, England, in 1784. His parents were what is termed in England respectable, but in moderate circumstances, and Nuttall received but the common rudiments of an English education. He was apprenticed to a printer, as a matter of his own choice, and so improved his time as to acquire a thorough knowledge of the Greek and Latin languages. In the pursuit of his calling he emigrated to the United States, when at the age of 22, and was employed for a time at his business in Philadelphia. He always had a taste for Natural History, and attended all lectures on scientific subjects; and, having obtained an introduction to Dr. Barton, the Botanist, at the conclusion of one of his lectures, he was referred for further information to the celebrated William Bartram, and to the kindness and attention he received from him, whom he often refers to in his works as "his venerable friend," the world is indebted for the sealing of those scientific proclivities which have since made his name famous.

Perhaps the first "little thing" that induced his early attendance on these lectures, he many years after related to his friend Dr. Pickering. The morning after his arrival in Philadelphia, he took a walk beyond the Schuylkill, and seeing a *Smilax* climbing a tree, said to himself—"Egad! there's a passion flower!" Returning, he inquired for a "Botany Book," and was told that a Dr. Barton had written one, but he could not find it at any of the stores, and so sought an introduction eventually to the Doctor himself. This was in 1808. From this time forward his progress in botanical science was very rapid, gathering his knowledge as he had done his past education, by his own efforts alone. His botanical trips were repeated and arduous, one of his earliest being

to investigate thoroughly the peninsula formed by the Delaware and the Chesapeake. As his knowledge of things "at home" became more perfect, he thirsted for more information, and boldly penetrated, usually alone, many hundreds of miles into the interior, making friends even of the most savage children of the forest. On one of these excursions, five hundred miles beyond the pale of civilization, he was taken sick. Entirely alone, and after every remedy had failed, he composed himself to die. He was found by an Indian, who placed him in a canoe and rowed him down a river to the region of the white man. Mr. N. seems to have been much attached to the Indian races. From his peculiar (to them) habits of gathering plants, he was called by them, "the pale-face medicine man," and throughout his whole works he seldom misses an opportunity to record his generous feelings towards them. Knowing their proclivities for whiskey, Mr. N. used to supply himself with this novel *pacifical* for cases of emergency, but never employed it when any other agent would answer as well. Mr. N. used often to say, to the amusement of his friends, that amongst the provoking annoyances that he would at times be subjected to, one was the drainage of his spirit bottles by some stealthy Indian; leaving his snakes and lizards dry!

The result of his trips and studies was, in 1818, the production of the *Genera of North American Plants*, which at once placed him on a footing with the highest in the scientific world, and the work is still received as a standard authority. The cost of these journeys, one of which extended to the Rocky Mountains, was borne by friends he had made in Philadelphia—generous friends of science; amongst whom may be mentioned L'abbé Correa de Serra, to whom he dedicated this work; Zaccheus Collins, in whose memory he dedicated the *Collinsia*; Dr. Barton and Reuben Haines. During the preparation of his work he spent nearly two years at the Academy of Natural Sciences in Philadelphia, studying and identifying his plants, often remaining up all night, and when tired lying down under the bones of the great Mastodon for repose.

One great characteristic of the man was his readiness to listen to suggestions from any quarter respecting his favorite science, and much of his success was, doubtless, owing to this modesty of his nature. At the suggestion of Dr. Darlington, he properly removed the genus *Obolaria* from the Linnean class *Didynamia* to that of *Tetrandria*, after the same suggestion had been ineffectually made to other authors. He was in fact, emphatically, a listener. Though frequently an honored guest at the fashionable Wistar and other Parties of Savans in Philadelphia, he had never anything to say, until "brought out;" but when once the ice of a first introduction was broken, he

was very communicative and free with his observations and knowledge.

After he had finished his "*Genera*," he determined to explore the region of country watered by the Arkansas River, and on the 18th of October, 1818, started alone on his perilous trip. He went the whole distance from Lancaster to Pittsburg on foot, and taking a small skiff at the latter place, was joined by a young stranger, and the two went alone down the river, arriving at the mouth of the Arkansas, after many perils and hair-breadth escapes, on the 16th of January, 1819. He was a whole year employed in this trip, returning to New Orleans on the 18th of December, having a second time nearly lost his life by fever and disease. It was on this trip that he discovered the *Collinsia*, at Fort Lee; we believe also the *Maclura*, and many other things. For the means to prosecute this trip, in addition to the names before given, W. McClure (to whom he dedicated the *Maclura*) and John Vaughan, largely contributed.

The journal of his travels here was published in 1821, and filled with highly interesting matter, but unfortunately was a poor speculation to his printer, through the absence of all anecdote and lightness, which, contrary to the strong advice of his friends, he would not admit. This was one marked trait in his character. He hated everything that savored of vanity or needless show, always aiming at the real and substantial. He was, however, well aware that such a course did not please the public, and often deplored that "he lived in an age that no longer tolerated the plain, unvarnished tale." He carried this habit of simplicity always with him. His dress, though always neat, was chosen with a view to service; sometimes on his journeys, made of leather, and fitted to his person; and probably in no event of his life did pecuniary considerations influence him. His income was mainly derived from lectures, given in Germantown and Philadelphia, and the private sale of his collections and specimens. Often his new plants would get into Nurserymen's hands, who would allow him something for them. We remember particularly *Diplacus puniceus*, on which Mr. Buist gave him half the proceeds of the sale. His lectures were the means of inducing many young men to turn their attention to scientific pursuits; making handsome fortunes for some of them, by the knowledge gained. Indeed, one of our most prominent millionaires makes no secret of the influence which the example, assistance, and friendship of Nuttall, had in encouraging in him the study of the sciences of Mineralogy and Chemistry, from which his first success in life began.

Soon after the publication of his Arkansas travels, he was in 1822 appointed Professor of Natural History at Cambridge, Massachusetts.

While in Boston, he engaged closely in the study of other branches of Natural history, and in 1827 his *Introduction to Systematic and Physiological Botany* appeared, and in 1832, his well-known work in Ornithology. He obtained much popularity at Cambridge as a lecturer on Botany and Materia Medica, and did much towards diffusing amongst apothecaries a knowledge of the drugs they dealt in, many of which he showed were obtained from other plants than they were popularly supposed to be.

He never, however, felt at home in his professorship; his active mind yearned for sterner occupations in the field of nature, and he used to describe himself to his friends as merely "vegetating," and "doing nothing for science."

In 1833 he came again to Philadelphia, determined, as he said, to resign his professorship, as the College authorities would not grant him leave of absence, and he then made arrangements for his great journey to the Pacific Coast. He wrote to the Governor of the Hudson Bay Company for protection and hospitality in case he should visit any of their posts, but received a very unsatisfactory reply, which Nuttall said was not much more than he expected, as the subordinates, in such cases, he had always found to sympathize with his objects more than the officials.

The owners of the vessel that brought him home from the Pacific, Messrs. Sturgis and Bryant, of Boston, to their honor be it said, would not take a cent of passage money from him, "as," said they, "you travel for the benefit of mankind."

In Danas' "Two Years Before the Mast," an amusing anecdote is told of Nuttall on this voyage, who wanted the Captain to put him ashore at Cape Horn, during a violent storm, that he might study the plants of the Cape. On this expedition he was accompanied by Thomas Say, the celebrated entomologist, and twenty others interested in various departments of Science, and it was perhaps the most valuable one for American interests ever undertaken.

On his return, he at once commenced on his additions to *Michaux's Sylva*, bringing up the three volumes of that splendidly illustrated work on American trees to six, and before the work was scarcely completed, in 1842, he was recalled to England by the death of his uncle, who bequeathed him his property, worth only about \$5000; and who, out of good feeling for his nephew, as he thought, fearing that in some of his dangerous journeys he would come to an untimely end, hampered the legacy with the condition that he should reside for nine months in each year in England. Poor Nuttall! his heart and soul were in the noble forests and boundless prairies of this country, and with the kind friends he had found here; and he

could not but feel his uncle's condition a cruel one. But he had no choice. Relying on this bequest years before, he had sacrificed all his means to science; and having nothing laid by for the future, he had to acquiesce.

In 1852 he got the idea that by taking the last three months in one year and the first three in the next, he might still enjoy the society of his friends here again, and so he tempted the waters of the Atlantic once more, and when he again found himself at his old haunts at the Academy, he could with difficulty bring his mind to tear himself away from them. Even during this short time he made some important discoveries in the structure of the anthers of the Mistletoe, never before noticed.

Since then, Mr. Nuttall has lived on this small estate at Rainhill, in England; devoting, as is well known to horticulturists, his time to experimenting on flowers, and especially with the Rhododendron; an accident connected with his favorite pursuit, indeed in some measure hastening his death. Mr. Nuttall's sister was married to a Mr. Booth, who soon afterwards was drowned in the Irish Channel. The only child from this union, Mr. N. had adopted and treated as his own; and the scientific spirit of his uncle has fallen on him. He has been, for some years past, exploring the Mountains of the East Indies, and many new and valuable plants have been the result. The Rhododendrons from the Himalayas in particular, were Mr. Nuttall's favorites. Late last fall, Mr. N.'s gardener became insane and had to be suddenly removed, and just about that time a case of plants arrived from Mr. Booth. In his anxiety to open the case, he unfortunately overstrained himself, and from the time of his injury gradually sunk—he died, aged 75.

Mr. Nuttall's attachment to America was particularly strong. Though so near the continent of Europe, he never visited it; and beyond a single trip to Ireland, never left England after his last visit to the United States.

We have been rather lengthy in our notice for our journal, but looking on Nuttall, as one of the most distinguished patriarchs of Botany and Arboriculture our country has produced, we were anxious to render our tribute to his memory. It will remain for our Scientific Societies to do it full justice, as we are sure they will. His name will be perpetuated amongst the votaries of science, not only by his labors and discoveries, but also by a beautiful genus of Rosaceæ called in honor of him "Nuttallia." The portrait with which this notice is accompanied, has been pronounced by several of his old friends as a most faithful one. Its resemblance to most of the portraits of Sir Walter Scott is quite striking.

TRAVELLING NOTES.

Mr. W. Reid, Elizabethtown, New Jersey. We had prepared some Notes of Mr. Reid's beautiful Nursery, but a correspondent in another column has stepped in before us. We were about, therefore, dismissing the topic by saying that we fully endorse what he says; but we must not neglect the opportunity to say that Mr. R. has made one of the prettiest Evergreen hedges in his grounds, out of the White Cedar of the swamps, *Cupressus thuyoides*, and that his Wellingtonia or Sequoia gigantea is perhaps the prettiest in the Union. It is perfectly hardy. It was about six feet thick. We saw a Libocedrus Chilensis 6 feet high, protected in winter. There is a fine Weeping Beech in the grounds, about 25 feet high. Mr. R. has hedges of everything that will do. They are about 3 feet wide at the base, curving to a point in the centre; and even beautiful as he keeps them, he ridicules the idea that they cost as much even as a post and rail fence. The place altogether occupies about thirty-five acres, and demands the services, on the average, of twelve men, and it is safe to say that under Mr. R.'s system of management he raises as much as some places of three times the extent. The numbers of acres is a poor measure of business. At Princeton, New Jersey, we called at—

Woodlawn, the residence of R. S. Field, Esq. Every one has heard of this beautiful place, and fine Evergreens. The second best Cedar of Lebanon in the Union is here. A fine Deodar, 8 feet high. *Picea pichta*, a beautiful specimen, 7 feet. A very fine *Thujiopsis borealis*, proving quite hardy and extremely beautiful. *Juniperus squamata*, from which more beautiful effects can be produced than perhaps from any other dwarf evergreen. *Retinospora ericoides*, a very hardy and distinct small evergreen, 3 feet. A beautiful Wellingtonia, about 5 feet high and 4 feet thick. A *Biota pendula*, or weeping arborvitæ, about 8 feet high. Perhaps one of the finest specimens of common Juniper is here, being about 12 feet high and 36 feet in circumference; with so much attention as is now given to compact dense forms of trees, it is a treat once in a while to see specimens like these, commanding admiration for rugged beauty. In the same idea some specimens of *Juniperus prostrata*, trailing in patches of 20 feet or more in diameter over the lawn, impressed us with their beauty. A Weeping Sophora here has grown with great vigor and luxuriousness, and forms a striking object. One of the prettiest things, to our mind, was a hedge of Chinese Arborvitæ, which, in a somewhat sheltered situation, seemed perfection itself. Mr. Field's place is quite extensive, and in the various departments of Arboretum, Pleasure Ground, Forcing Houses, Graperies, Plant houses, Fruit and Vegetable garden, afforded us a rich treat which we shall long remember.

Mr. Noice, the worthy gardener, has been here nearly twenty years, a fact which it gives us great pleasure to record, knowing how much it is to the benefit of the gardens at any rate, to have as few changes as possible in their cultivators. In Princeton, at the suggestion of our neighbour Mr. W. Saunders, whom we fortunately met here, engaged in his profession of Landscape Gardener, we made a call on—

Mr. Vandeventer, who has a Dwarf Pear Orchard of several acres, in the rear of his city store, and we certainly were more than amply repaid. They were principally Louise Bonne de Jersey, although there were individual specimens of many other kinds. Nothing could excel the health, beauty and productiveness of these trees. If we remember right, Mr. V. told us these trees were 15 years planted, and were annually in fruit, as we then saw them. The soil was what we have always recommended for dwarf Pears, namely: warm, with a naturally damp subsoil. At the foot of the grounds, which have very little fall, a fish pond exists, showing how low is the garden ground. To judicious thinning of the fruit, however, does Mr. V. attribute his great success. He thinks that more dwarf pears have been killed by overbearing when young, than by any other cause; an opinion in which we entirely coincide. At Bloomingdale, near Bristol, Penna., about twenty miles from Phila., is the immense Seed Farm of

Mr. David Landreth. Messrs. Landreth's is probably the oldest existing house in the United States, having been started over seventy years ago. Their large and constantly increasing Seed business caused them, some years ago, to devote their undivided attention to the seed department, abandoning entirely their nursery trade. But with the business, Mr. Landreth has not evidently given up the love of trees and flowers, for his grounds contain some of the finest and handsomest specimens of many rare kinds, we have yet seen. Particularly fine are the White Spruces (*Abies Alba*), one of them, perhaps not more than 25 feet high, measured 60 feet around the branches, with which it was clothed to the ground. Many of the rare pines were so large as to be bearing cones freely. We noticed this in particular with *Abies Morinda*, the Himalayan Spruce, and *Picea Cephalonica*, the latter especially, which was nearly 15 feet high. One of the Morindas we noticed, about 8 feet, and very perfect in appearance. An *Abies Menziesii*—California White Spruce, about 10 feet high, was truly beautiful, and we have no word left that can fully express our admiration of a *Picea pichta*, about 8 feet high. We think no kind, rare or old, excels this in beauty. Its foliage is so feathery, and of such a pleasing green, that in these respects at least, it has no superior.

Mr. Landreth has been very successful with Rhodo-

dendrons. One thing was conclusive from his experiments, that although they do best under the shade of trees, they must be kept away from their roots; a very dry soil, such as tree roots effect is fatal to success. The Dwarf Pear Orchard was loaded with pears, and all classes of fruit seemed thriving in wild luxuriousness.

About three miles south of Mr. Landreth's is the Nursery of Mr. John Sherwood, one of those benefactors to the horticultural community who grow plants for their own amusement and gratification, as well as for the money to be made of them. Though but a few years since Mr. S. changed to his present location, he has already managed to surround himself with many rare and beautiful things. A *Pinus Sabina*, about 5 feet high, was conspicuous for its glaucous hue, and distinct appearance, and amongst other hardy evergreens, good specimens of *Cupressus religiosa*, Weeping *American Arborvitæ*, *Juniperus daurica*, *Callitris glaucescens*, *Juniperus recurva*-*densis*, a strong grower and weeper, and *Cupressus elegans*. In the flower borders the beautiful herbaceous plant *Lobelia aurea* was in bloom; also *Spiræa Billardii*, a pink flowered shrub, valuable for continuing in bloom from July till frost. Amongst the rare deciduous trees, *Quercus fastigiata*, a variety of English Oak, growing upright like a Lombardy poplar, specimen about 8 feet high; and *Ulmus sempervirens* with very small leaves were striking.

Mr. S. pays great attention to Evergreens, most of them being frequently transplanted, and set out with plenty of space for each to develop themselves.

The Nursery occupies but twelve acres, but yet so carefully cultivated and well stocked, that an "outsider" would wonder where the produce was all grown, and so great is the variety cultivated that we fancy it would be difficult to enquire for a fruit or tree in common cultivation that could not be supplied.

FRUIT GROWERS SOCIETY OF EASTERN PENNSYLVANIA.

The first meeting of this new association, will be held on the second Wednesday of February—this time at Lancaster, Pa.

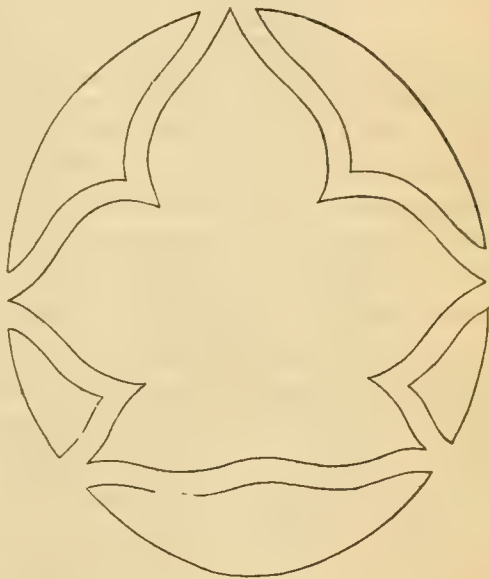
It is impossible to over estimate the advantages likely to ensue from its efforts, and we earnestly hope it will receive the support of all practical men—by their attendance where practicable; but, where that is not possible, by forwarding specimens of the fruits of their region,—Eastern Pennsylvania, and north of Maryland and Delaware—and also notes of their experience with various fruits, in their qualities, modes of culture, diseases &c. Any thing left at the office of the Monthly, we will with pleasure hand over to the proper authorities. Dr. Eshleman of Downingtown, is President, and Thos. N. Harvey, Jennerville, Sec-

retary, from whom we presume any information desired can be obtained.

ERRORS IN DESIGNING FLOWER BEDS.

A correspondent in Canada sends us the annexed sketch of a flower bed he has designed, intending it to represent a maple leaf. He thinks it has a pretty effect, and asks our opinion. We thought at first to simply say by a few lines under the head of Inquiries and Answers, that we did not altogether approve of the idea, but we thought we could make it answer a good purpose by engraving it, and show wherein its defects lie. To teach what errors to avoid, is often more useful than to teach what objects to encompass.

In laying out flower beds, it is very common to make the form of the beds the first consideration. In the following note our correspondent falls in with the general idea.



"Above is a rough sketch of a flower bed suggested by the form of a maple leaf. If you think there is any merit in it, please insert it in the *Monthly*. Many fine forms for beds and garden ornaments might be taken from the outlines of natural objects, as most of them are simple, and therefore beautiful."

All this has to be reversed. When a flower bed is set out on the lawn, and especially when it is filled with flowers the eye seldom rests on its shape, but on that of the larger object which it is set to adorn, namely the lawn itself.

This is more especially the case with belts of shrubbery and long borders. In striking out a bed or belt, therefore, the idea should be to note what kind of an outline it will give to the grass or grounds surround-

ing it. A very ugly bed will often make the lawn look pretty, and the contrary with pretty ones. By turning to our correspondent's plan, it will be found very objectionable in this respect. The walks here are the real objects seen. It is *their* outlines, and not the outlines of the beds that the eye takes in. Not only the eye, but the *feet* also rebel against the idea; and in turning the sharp corners, will with difficulty be restrained from injuring them. A walk should be always *leading*; encouraging and inviting us by their smoothness and freedom of outline.

When a set flower bed is to be looked down on from an elevation, the outline of the whole will then be an object; but even then care must be taken not to adopt forms that will render the outlines of the ground view repulsive. In this respect, the oval form of our correspondent's plan is good, and few errors can be made with either ovals or circles. They accord with almost any other part of the ground.

NOTICE.

Our excellent correspondent, MR. WILLIAM BRIGHT of the Logan Nursery, left this city on the 8th of December last, on a trip to England, where he intends to spend several weeks in visiting the principal horticultural establishments and Government gardens, and has promised us some Notes of his excursion for publication. Mr. Bright is a keen observer, and possesses the faculty of telling what he sees, and we hope for some interesting and useful matter from his pen on the progress of horticulture in England.

TO ADVERTISERS.

We wish to urge upon our advertisers the importance of writing their advertisements very plainly and carefully. As a proof of the importance of this, we will cite an instance of recent occurrence. Our friends, J. L. Darlington & Co., of West Chester, Penna., prepared an advertisement for our November number, and after it was written, altered one of the prices, and in folding up the letter, blotted it. It was received at the office just as the paper was going to press, and was inserted so as to read—*would sell good strong plants of Hybrid Perpetual Roses for \$5 per 100!* instead of \$15. This error proved a very serious matter to our friends, as will appear from the following extract of a letter received from them:

"We have been fairly over-run with orders for Roses; and what is the worst of all is that we received several letters from our brother nurserymen, reprimanding us severely, not only for underselling them, but for selling an article far below the actual cost of raising it. These letters have all to be answered, and you can imagine the trouble it has given us."

We will merely add that knowing the importance of correctness in this department, we have exercised great care in reading proof, and are pleased to find that this is the only mistake of any consequence that

has occurred during the past year, and even this is not, under the circumstances, wholly chargeable to us. We hope most sincerely that our friends will not be the losers by it in the end, as even the price, as corrected, strikes us as being remarkably low.

Questions and Answers.

HEATING BY A TANK OF HOT-WATER—J. S. Lippincott.—Your idea is quite practical, indeed, our Propagating-house is provided with just such a contrivance for obtaining bottom heat. We shall revert to the subject further with your article next month. Very much obliged by your kind postscript.

ORIGIN OF THE DELAWARE GRAPE.—The suggestion we made in our November number, from reasons there stated, that many varieties of grape existed on the Delaware, forming a class of their own, of which the kind in cultivation as Delaware is the type, has created some attention. The *Horticulturist*, and *Germantown Telegraph* announced broadly that the Delaware had been "found wild in the woods of Pennsylvania." Dr. Grant defies them to produce any evidence to prove the statement, and so far we think he is right.

A Correspondent of the *Rural New Yorker* is also considerably exercised. Though we made no reference to Mr. Ott's article, except to express surprise that he should give so bad an account of his grape, which, by the way, we have never seen; he fancies we "in part endorsed" the article, and that some "ulterior motives" have been brought to bear on Mr. Ott, and which he intimates to be "some dream" of the Editor's. Some men's olfactories are more acute than their understandings.

This "smelling of rats," may be the right step to an antidote in an infested building, but it is the bane of horticultural discussions. The Editor of the *Rural* is more impartial, though he seems to suppose that because we said, in all probability "the Delaware's home," alluding, as our whole article did, to its origin, "is on the banks of the Delaware," we must necessarily mean the Delaware grape, so called, itself. We thought our own qualification of "similar varieties" would be sufficient to prevent any misunderstanding. But it is probably an oversight of the Editor of the *Rural*.

We are glad that we have called the attention of pomologists to this subject. There are but few questions in which some individuals may not find an opportunity to indulge in personalities and ill feeling if they are so disposed, and this one will be no exception. The fact of four bunches of grapes from four

different localities along the Delaware, all differing in size and shape of bunch and berry, and yet so nearly approaching in general character, that a committee composed of the principal pomologists of the Philadelphia Society, pronounced them all "Delaware," is a *fact*, and one of itself suggestive, as we have stated, of different origins, and which is still more suggestive when we remember that bunches from the original Ohio vines are now produced all over the country with singular uniformity of character. We make no assertion that they are from different origins, but think the inference is not forced that they are quite likely to be.

We hope our friends will continue their investigations. With Jefferson, we believe, that "error is harmless when truth is left free to combat it," and our columns are open, without reference to the result to which our correspondent's discoveries may lead.

BASKET WILLOWS.—George Rhey.

The *Salix Russelliana* is the kind of willow generally grown around Philadelphia for osier work, and is the same as usually employed by nurserymen for tying. They are mostly grown on swampy ground in rows, 8 feet by 2. A crop, sometimes two, of hay is also cut off per annum, and enters into the calculation of profit from the plantation. The crop is not worth much till the third year, when it will produce about \$15 per acre. About five or six years after planting, they are in their prime, and will afford from 15 to 20 pounds from each stack, and bring prices ranging from 4 to 5 cents per pound when cleaned. The willows are cut just before the buds burst in spring, and must be kept moist till cleaned, which latter is done either by a hand scraper, or what is called a horse, which any blacksmith and ingenious carpenter together can make. There is no regular machine of any consequence employed that we know.

As to whether the willow will be as good raised in Louisiana as here, we would not like to advise you. Usually the more climate or soil favors a luxuriant vegetation, the more brittle any given wood becomes; but we apprehend there would be no material difference in the willow. That, however, should be tested before going into it extensively.

PEACH WORMS.—John, Lynchburg, Va.

We have little faith in baring the roots for the winter to kill the worm. Rather run a wire into their holes; or better still cut them out with a jack-knife, and then tar the stem two inches under the soil, and a half inch or so above. We never found any injury from tar, but some report they have. Tar may at times vary in strength. To be safe, a piece of muslin may be wrapped around first, and *that*

tarred. Dwarf pears require the same looking after. The bone dust you refer to will benefit both the pears and grape vines, sprinkled on the surface and raked in. One year Catawba grapes we would rather plant in spring than fall.

X. N., St. Charles, Illinois.—We cannot name varieties of Strawberries by their leaves alone. Sometimes we can tell what a kind is *not* by its leaves, but never certainly what it *is*. Gooseberry Seed should be rubbed out in sand as soon as the fruit is ripe, and sown at once without drying it; the pot or box of seed should then be placed in a cellar or any dark place till spring, or they show sign of germination, when they should at once have light and warmth. The soil must never be allowed to get dry after the seed is sown. There are many varieties of grapes, some with a buff rust under the leaves, some pale green; some leathery and some thin; some with leaves deeply lobed, and some with regular margins. Nothing can be guessed as to the value of your seedlings by any of these characters, but persevere, some good ones may be among them for all. Much obliged by your very kind letter which has been handed to the publisher.

COMMUNICATIONS and other favors received from G. R. and others.

New and Rare Fruits.

GENERAL HAVELOCK STRAWBERRY—is described in the English journals as being the earliest of the known kinds. It ripens as early as the *Black Prince*. The berries are as large as *Keen's Seedling*, very firm, and red throughout, first-rate flavor, and very heavy cropper, and will color well in the most unfavorable weather. It comes in a fortnight earlier than *Alice Maude*, *Keen's Seedling*, *Prince of Wales*, or any of the larger sorts.

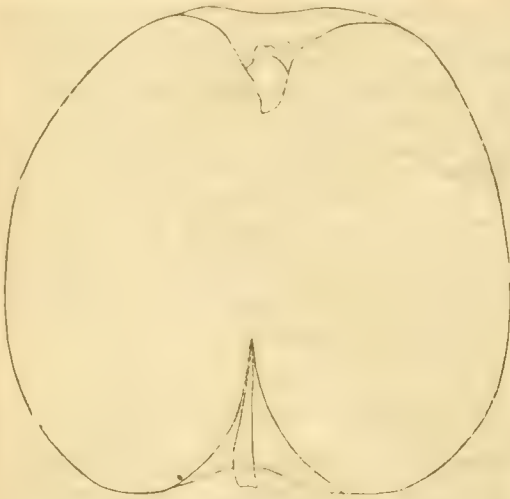
LENOIR AND OHIO GRAPE.—At page 173 we notice the opinion of the Horticultural Editor of the *Southern Cultivator*, that "these grapes were nearly, if not altogether, the same. Mr. W. N. White corrects this in a recent number.

THE GRIFFITH PEACH.—Can any of our correspondents point out wherein this kind differs from the *Susquehanna*? We have not seen the fruit ourselves, but find an opinion prevailing that they are "nearly, if not altogether, the same."

THE WATER APPLE.—We have frequently heard the Germans of the interior of Pennsylvania, speak in high terms of their Water Apple; and we, last Summer, wrote to Mr. Youngken, of Richlandtown,

to favor us with specimens, if possible, in due season, and some time ago had the pleasure of receiving a box from him.

There is nothing in the appearance of the apple to recommend it, being less inviting, if possible, than a Newtown Pippin. In eating, it is very suggestive of Smith's Cider, and may originally be a seedling from that valuable variety. To our taste it is not first rate, but so many differ from us, that we almost hesitate to say so. The following is the description from the specimen before us:



Oblong ovate, tapering a little towards the apex. Skin pale yellowish white, sparsely strewn with blackish dots on the sunny side, with a slight blush cheek; calyx small, rather deeply set; stalk slender, not projecting beyond the fruit. Flesh very white, crisp, juicy and very tender, delicate, so much so as to be easily crushed; flavor very good. Dec. 1st.

Since writing the above, another friend, dating from Bucks County, Pa., says in a private letter:—

"I look upon the 'Water' the same as I do upon the Bartlett among the pears, taking all things into consideration. I think it is the best apple I have out of about two hundred varieties; its bearing qualities, the beautiful habit of the tree, and the quality of the fruit, I think, has no superior. It is a first-rate eating apple, and second to none for baking. It never becomes mealy like other apples, but will ripen like a pear; the longer you keep them the better they get.

Domestic Intelligence.

SCUPPERNONG GRAPE.—Mr. Van Buren, in the *Horticulturist*, says that the impression of many that

there is a white and black variety, identical in every respect but color, is erroneous. The true Scuppernong is a seedling from the Southern Muscadine or Bullet grape, and is white. The wild (black) one has imperfect flowers; this has not. Some class it as a fox grape, Mr. B. says it has nothing in common. It belongs to *Vitis Vulpina*, and not *V. Labrusca*. He thinks it cannot be excelled as a wine grape for the South.

SEEDING DOWN YOUNG ORCHARDS.—Our calendar writer does not arrogate to himself all the practical knowledge in the country, and is rather pleased than otherwise with respectful criticism from those whose experience is equal at least to his own. We therefore cheerfully insert the following remarks of the "*Country Gentleman*."

"The *Gardener's Monthly* is an excellent practical paper, and we are therefore surprised to see in the last number a recommendation to seed down a young orchard the next spring after planting, with orchard grass. This recommendation is the more extraordinary as it immediately follows directions for the management of dwarf pears. All we ask the editor is, to try this mode alongside the practice of keeping up a system of broadcast cultivation by horse labor. We have seen both ways tried so often, with such invariable and striking results, that we supposed the matter settled long ago with all intelligent cultivators."

In this instance we think still we are right. We are aware that "the matter has been settled long ago with many intelligent cultivators." But we think it is one that will not stay "settled." That fruit trees grow better, and seem more thriving for the first ten years under the system of tearing-up the fibrous surface roots, we admit; but that they are permanently injured, we believe to be the fact.

Cultivators are only now beginning to understand the importance of taking care of the surface fibres by shallow planting, surface manuring, and by every means encouraging the growth of the feeding roots at the surface of the ground. The old-school illustration of the wise man who "dug about the roots of his trees," cutting of their best fibres in order to "admit the air to them," we think will soon be blotted from the records of good culture. Our readers will not forget that to the recommendation criticised by our friends of the *Country Gentleman*, we added "under the trees in an orchard so laid down in grass, the surface should every second year receive a good top-dressing of manure or guano."

SUBTERRANEAN NURSERIES.—An enterprising Frenchman in Newark has started an establishment for the raising of mushrooms and truffles for the table.

SCARLET-FRUITED EGG PLANT.

This variety of the *Solanum* tribe has been raised in the vicinity of Paris, from seed obtained from Portugal. The plant attains the height of about a metre, (39 inches) and the leaves are generally 6 inches long. In its general appearance, the plant closely resembles the common variety of the *S. Melongena*.



The fruit is about the size of a hen's egg, of a beautiful scarlet color and shaped as in the cut annexed. In the vicinity of Paris the fruit is rather tasteless when cooked, but in a warmer climate it is doubtless better. As an ornamental plant, nothing is prettier than this plant when in fruit.—*Revue Horticole*.

TRITONIA AUREA.—This old, but now rejuvenated and beautiful bulb, is beginning to attract universal attention. The following, from the *Collage Gardener*, is the best mode of treating it:

The old bulbs, with the travelling suckers attached, should be taken up and potted, and kept a little moist all the winter, and in February the suckers should be taken off and potted like cuttings round a pot, and be kept growing on all the spring, and be planted out by the end of May. If the old roots have any fresh leaves in February, keep them watered also; if not, they may be let to rest for six weeks. We treat this plant as an evergreen, and have it in bloom till December.

CUCUMBER VINEGAR.—This is excellent for using with salad and cold meat. Put fifteen large Cucumbers, paired and sliced thin, into a jar with three pints of vinegar, four onions sliced, three shallots, a little garlic, two large spoonfuls of salt, three tea-spoonfuls of pepper, and half a tea-spoonful of Cayenne pepper. Let these stand four days, give the whole a boil, then strain and filter the liquor into bottles for use.—*Cottage Gardener.*

UNION OF HORTICULTURAL SOCIETIES.—We notice in the *Revue Horticole*, that the various Horticultural Societies of Belgium have united into one confederation. An idea we think worthy of consideration with those of our own country.

SPERGULA PILIFERA, the new substitute for grass, is now sold by Henderson's of London, at four shillings or one dollar a dozen. Its home is Corsica.

CURIOUS FACT IN GRAFTING.—The *Revue Horticole* says that the thorny *Cralæus digyna* loses its thorns when grafted on *C. oxyacantha*.

THE MADRAS RADISH is a kind grown for its pods. It is praised in the *Cottage Gardener*. We saw it recently at Mr. Buchanan's, Astoria, N. Y.

Foreign Correspondence.

From our Regular English Correspondent.

It is pleasant to notice the great change which is taking place amongst our people. The love of gardening and flowers is seizing all classes from the highest to the poorest; and hundreds who once resorted to the tavern, the ring, or to dog fights for amusement, now find greater pleasure in their homes, their flowers, and their gardens.

In the Manchester Botanical Gardens, this season, an experiment has been tried to entice the working classes from the town and its pollutions, to nature's domain; and most gratifying have been the results. The Gardens were thrown open at the charge of sixpence. All the plants then in flower in the Gardens were collected together in the large exhibition house, and tastefully arranged by the curator, (Mr. Bruce Findlay,) so as to make quite a display. These were posted as "Exhibitions for the People," and gave them the highest satisfaction, and as there was no award of prize money, the profits to the Gardens would be considerable. We learn that these exhibitions are to be continued with improvements; the plants will be arranged according to their class and order, so as to impart Botanical knowledge as well as

pleasant and innocent amusement. We trust other Public Gardens will imitate this excellent practice, for from it good must spring.

The exhibitions throughout the country, in towns and villages are not without their results on multitudes, and those grand gatherings at "The Crystal Palace," with the increasing number of visitors who now *must* see the shows there, is cheering to think about and to see. This is not all: other gardens are spoken of as "*soon to be*;" of noble dimensions, in great attractiveness, while down in the North of Yorkshire there is talk of a country village having its park, pleasure ground, and gardens. And we are proud and pleased to see and hear of our brethren across the Atlantic, stirring themselves on this important matter, for we know if our neighbors begin in earnest, they will do the thing handsomely. Another important feature we must notice in this hasty sketch, is the nurseries, the seed grounds, and manufacturing, where millions of plants are annually created and circulated. Let any one who can remember the *institution* called a nursery as it existed twenty years ago, and then with the picture of this primitive abortion in his mind, with its dirt and disorder, let him visit some of those princely places, which we could easily enumerate by the dozen, and while looking at the neat and clean and orderly arrangements that are in force both in doors and out, and then look at the superior skill manifested in the propagation and cultivation of plants which at one time was thought impossible to be kept alive, and then consider the value of some of these plants, the great cost at which they are procured and kept by clever men at home, and indefatigable men abroad, and it will be seen there has been the work of a century's improvement condensed into the space of twenty years. In short, every indication points clearly to a greatly improving and increasing fondness for floriculture and horticulture.

The potato disease has again, this season, visited us with unabated virulence, and seems as if it would drive the potato out of cultivation.

A malady, something similar to the potato disease has made its appearance amongst the turnips, and for the last few years it has been spreading. These scourges are creating a very uneasy feeling amongst many of our principal cultivators; the cause seems wrapped in obscurity, and many careful experiments give no satisfactory result.

The "Cottager's Kale" has been very extensively planted, and has proved itself a very desirable and useful vegetable, being a decided improvement on the "Cabbage Sprout," the "Savoy," or the "Brussel Sprout." When well cooked the vegetable is extremely tender, and as far as we can learn, very digestible. It is, moreover, very hardy and very pro-

life, and as it follows the early potatoes, (in planting after them,) the rotation of cropping is advantageously carried out. We find it the best policy to plant plenty of early potatoes, which we use *when ready*, and find we can get a greater proportion of good tubers from this method than by depending on the winter crop, which we think best to buy in.

Great attention is now bestowed on "Rhubarb," amongst us, and we have some very excellent sorts for forcing, principally the early scarlet kinds, probably the demand for this fine antiscorbutic vegetable may induce some of our wealthy speculators to grow it for the million at a cheaper rate. Large quantities of wine is yearly made from some of the later kinds, such as the "Victoria," etc., and in a season like the present, where apples are scarce, it has been greedily used for preserves.

In fruit growing, the "Golden Hamburg" grape, and the "Bowood Muscat" are generally well liked, and have kept well up this season. The grape crops have been good this year; we have had a fine dry summer, with plenty of sunshine, which in many situations, is very desirable for the perfection of the crop. So many failures have occurred at various times in attempting to grow such fruits as the Peach on open walls, that people think it advisable to make what are called glass walls, as a protection. These are heated by artificial means, and a crop is secured with far greater certainty than by trusting to the accident of a suitable season; we have lately seen several of these structures at Wortley, the seat of Lord Wharnccliffe, and were informed by Mr. Law, the gardener there, that they were built quite as cheaply as if a flued wall had been built instead on the old principle, and judging from the clean and healthy appearance of the trees, and the fine, well-ripened condition of the wood, there seems every probability of an excellent crop. A number of these places may be heated by one boiler; this is a great convenience to those who have the management, in some cases where flued walls were used, and ten separate fires required to heat them by the substitution of the one boiler system; the work has been better done, of course cheaper, so far as fuel is concerned, and much labor economized, and the nuisance of the large quantities of smoke avoided. Another contrivance for fruit growing is the orchard house; these arrangements are pretty popular, particularly amongst the amateurs. In several instances surprising crops of fruit have been produced on Liliputian trees; in other cases there has been great disappointment.

We prefer the glass wall as being cheaper and better and more certain; we have seen some very creditable Black Hambro' grapes produced under the shelter of these glass walls, and for the cultivation of some of our beautiful climbers these structures are very suit-

able. We have seen *Rynchospermum jasminoides*, *Ceanothus dentatus*, and several of the passion flowers, with many others in very fine condition; they were planted out in suitable borders with trellis at the back. I do not wish to be understood as saying that the peach and climbers do well together, only that the structure is suitable for either purpose and can be profitably or pleasantly employed, as the case may be. Glass is now so cheap, and so much of it can be heated by one fire, and the urgent demand for early vegetables and more fruit so pressing, that we confidently expect to see ground covered by the acre with artificial means of producing these requisites.

We believe it would be impossible to grow Mushrooms enough to supply the demand for them, and the charge for them is sometimes very high, yet they meet with a ready sale. This season there has been an unusually large supply of Field Mushrooms, principally a strong, large, coarse variety of the *Agaricus campestris*, not possessing the smell or flavor of the true variety; these were freely purchased, and in quick time.

Amongst the now common incidents of horticultural progressiveness, is the demand which exists for such articles as Sea Kale and Asparagus. Some years since, amongst even respectable society, such things were hardly known to exist, while now they are looked for just as peas are expected in June. We have tried an experiment on the forcing of Sea Kale, as follows: in the middle of the winter, in a very warm chamber or cellar which holds a large number of hot water pipes, (the heat cannot be less than 90° night and day, it is moreover, what we gardeners call *dry air*, the place is perfectly dark,) we took up some good, strong three year old roots, and introduced some soil for the purpose of planting them in; when this was done they were covered over with pots, as is usually done, watered and left. In eighteen days I was agreeably surprised to find the pots filled with abundance of the very finest Sea Kale I had ever seen. Unfortunately, this could not be cooked to the satisfaction of my employer, although the cook tried several methods with it; it was stringy and of a strong flavor. The experiment was not entirely satisfactory, yet I think it worth recording for it may be suggestive to others, and it proves the possibility of, at least producing the vegetable in quick time. I intend to "try again," the next time to keep it more air-tight and moist.

We might show, if our space permitted, how astonishingly the supply of plants, (forced plants) have increased in the market, certainly forty per cent. over twenty years ago. Thousands of Camellias are purchased by window gardeners—cottagers, in fact—so with Hyacinths, untold numbers of these are creditably grown; large quantities of Mignonette

and of musk plants are purchased by others, and few plants are more *durable* for window decoration than Mignonette, and when suspended in those little terra cotta vases they seem to bloom better than in pots, more particularly if permitted to droop over the rim and hang down. We observe lots of the beautiful *Jasminum grandiflorum* in bloom, in small pots; a most charming plant, with a scent as sweet as the orange blossom, and a flower much larger; these are sold remarkably cheap, and judging from the number of buds which cluster on each plant, we should suppose, under proper care, they would continue in bloom nearly the whole of the winter.

Daphnes in small pots, with blossoms upon them, and plants of the *Poinsettia pulcherrima*; these are kept quite dwarf and are extremely gay and desirable and sell very well. Cyclamens, too, are in request, and no wonder, for when properly managed they are most beautiful.

Horticultural Societies.

[Our space will not generally allow of our giving a full list of premiums awarded by our Societies, and we shall usually confine ourselves to giving the names of those who obtain the First and Laureate Premiums.]

CINCINNATI HORTICULTURAL SOCIETY. NOVEMBER 19th.

President Haseltine in the Chair.

The question for discussion of the day—the time and manner of applying manures—having been called, Dr. J. A. Warder observed that to benefit growing crops, electricity and heat were the chief stimulants, and the mode of application would depend very much upon the kind of crops cultivated. For clay soils he preferred green manure, as it decomposed more slowly than manure. He recommended composting various ingredients, and the saving of the drainage to apply as manure—water to the land.

Mr. Buchanan manured at all seasons, but midsummer rubbish of every kind he collects in a well to rot. Mostly manures in fall, but with the idea mainly of saving spring work.

Mr. Mottier agreed with the two last speakers. Compost for light soils—fresh manure for clay. Mixes soil with his manure to absorb the gases.

Dr. Moher spread his manure, and plowed it in in the spring.

Mr. D. B. Pierson's experience corroborated that of the former speaker. He advocated surface manuring, and the preservation of the rootlets.

Mr. Addis found it more profitable to keep stock, and cultivate manure, than to haul it from cities. Advocated underdraining in clayey soils, and the application of liquid manure.

Mr. Price opposed surface manuring. It lost by evaporation.

D. B. Pierson considered that the evaporation does no harm. The salt vats which evaporate simply remove the watery parts. Guano remains on the islands strong for thousands of years. If you stir guano it will make your eyes smart like pepper. The ammonia still exists, even under the equator. Nature has provided that the chief volatile parts should descend into the earth, particularly with rains, and the watery portions ascend.

Mr. Sanford disagreed with the last speaker. Sheltering manure was an admitted advantage.

Mr. Muller sheltered his manure, but, for all, thought a load of fresh manure, spread on the surface, did more good than four if old.

Dr. Warder observed that Sulphate of Lime would prevent the loss of ammonia in fermentation.

Mr. Kelly would plow manure slightly under the surface.

Moved by a suitable design for the contemplated monument to those who have distinguished themselves for their eminence in, and promotion of the cause of Horticulture, to be erected on a lot in Spring Grove Cemetery.

Accordingly the following gentlemen were appointed a committee, viz. Messrs. Hoffner, Buchanan, Foote, Weaver and Strauch.

Among the fruit exhibited November 9th, the committee reported:

Pear Seedling from the farm of George Hoadley, of Cleveland, Ohio, named Lyons, small russet, bearing some resemblance to the Seckel, juicy, and rather sweet and buttery—specimens apparently authorized premature. And on the 14th B. F. Sanford presented from W. H. McKinney, of Morrow, Ohio, a seedling, a mate-red striped apple, of medium size, flesh yellow, crisp, sub-acid, rich and aromatic very good—not known, and we propose the name of Governor Morrow.

Pears—Mr. Gregg exhibited the Anderson's Favorite, a favorite with those who want a good bearer of a pear that bakes well, bears well, and is barely eatable at Christmas.

NOVEMBER 26th.

President Haseltine in the chair.

Mr. J. S. Cook objected to unfertilized manure from its introduction of weeds. Major Miliken thought it was more important to apply manure in its best state, (namely green), than to care for weeds it induced.

Mr. Haseltine thought the last speaker's remarks might weigh with the farmer, but not with the nicer operations of the horticulturist.

Mr. Mullet took this view; as also did Mr. Addis.

Mr. S. Roberts spoke of the value of calcined bones, prepared by him.

Mr. Heaver said it required to be mixed with earth and manure in three equal proportions, when it was excellent.

Mr. J. R. Green found it good for corn, and agreed with Mr. Heaver as to its strength, and the necessity of composting it.

Dr. Warder praised it, and considered it worth two cents per lb. Several other members referred to it, all agreeing as to its value on the various crops they had tried it on.

Amongst many fruits reported on, were:

From E. J. Hooper, for Mr. Gilmore, Springfield, Illinois, Baltimore red, conical, red, striped and mixed, flesh whitish yellow, tender, sweet, handsome and rather good.

From J. D. Park, for J. Crain, Burkville, Illinois, the Holman, a large, good keeping apple; Lumbertwig, a good keeper, rather large for this variety.

Mr. Charles Parnell, gardener at College Hill, exhibited two varieties of Celery—Synes' Victoria and Cole's Late Red—all very gigantic, solid, of fine form, and of excellent flavor; but, by the majority of those who tasted them, Cole's Late Red obtained the preference. One of Synes' Victoria weighed four pounds and a half.

FRUIT GROWERS' OF COLUMBUS, OHIO.

The notice of the Fruit Growers' Meeting at Columbus, Ohio, on the 7th ult., did not reach us till December 1st, or we would have cheerfully announced it for the society.

CALIFORNIA STATE HORTICULTURAL SOCIETY.

The Third Annual Fair seems to have been very successful, and we are really astonished to find by the report how great is the Horticultural resources of the Golden State. Nearly every kind of flower, fruit, and vegetable known in the older states, was competed for. Mr. Wadsworth, the Editor of that excellent work the *California Cultivator*, delivered a beautiful address, studded with many gems of original thought. Mr. W. denies that Horticulture was man's first employment, though it was so intended. He thinks the *Sewing Machine* makers have a prior claim over us in the patronage of our first parents. Our publisher also finds a fond connection between horticulture and sewing machines.

FRANKFORD WORKINGMAN'S HORTICULTURAL SOCIETY.

Dear Sir—Our Celery show came off on the 7th of October. We had many exhibitors not only of Celery, but of other vegetables. The early frost injured us; but having decorated the room, made the affair pleasing, and our friends congratulated us on the result.

I cannot think of occupying your valuable space with giving the name and weight of each, suffice it to say, that the specimens ranged, White Solid, from 7 1/4 to 1 1/2 pounds; for Red Solid, from 6 1/4 to 1 1/4 pound. The winners were for White, first, Andrew Walsh, second James Threlfall, third Thomas Nuttal; for the Red, first James Threlfall, second Thomas Nuttal, third James S. Lord. Special premiums were also awarded to Richard Scott, for best White Cabbage, and plate of Salad; James Threlfall for best Red Cabbage; Andrew Walsh for best Beet; Wm. Fairhurst for Parsnips. As regards the growth of our Celery, we have come to the conclusion that it requires a little salt which tends to kill insects around the plant; and that it blanches best in saw dust, with a little salt mixed with the earth while earthing it up.

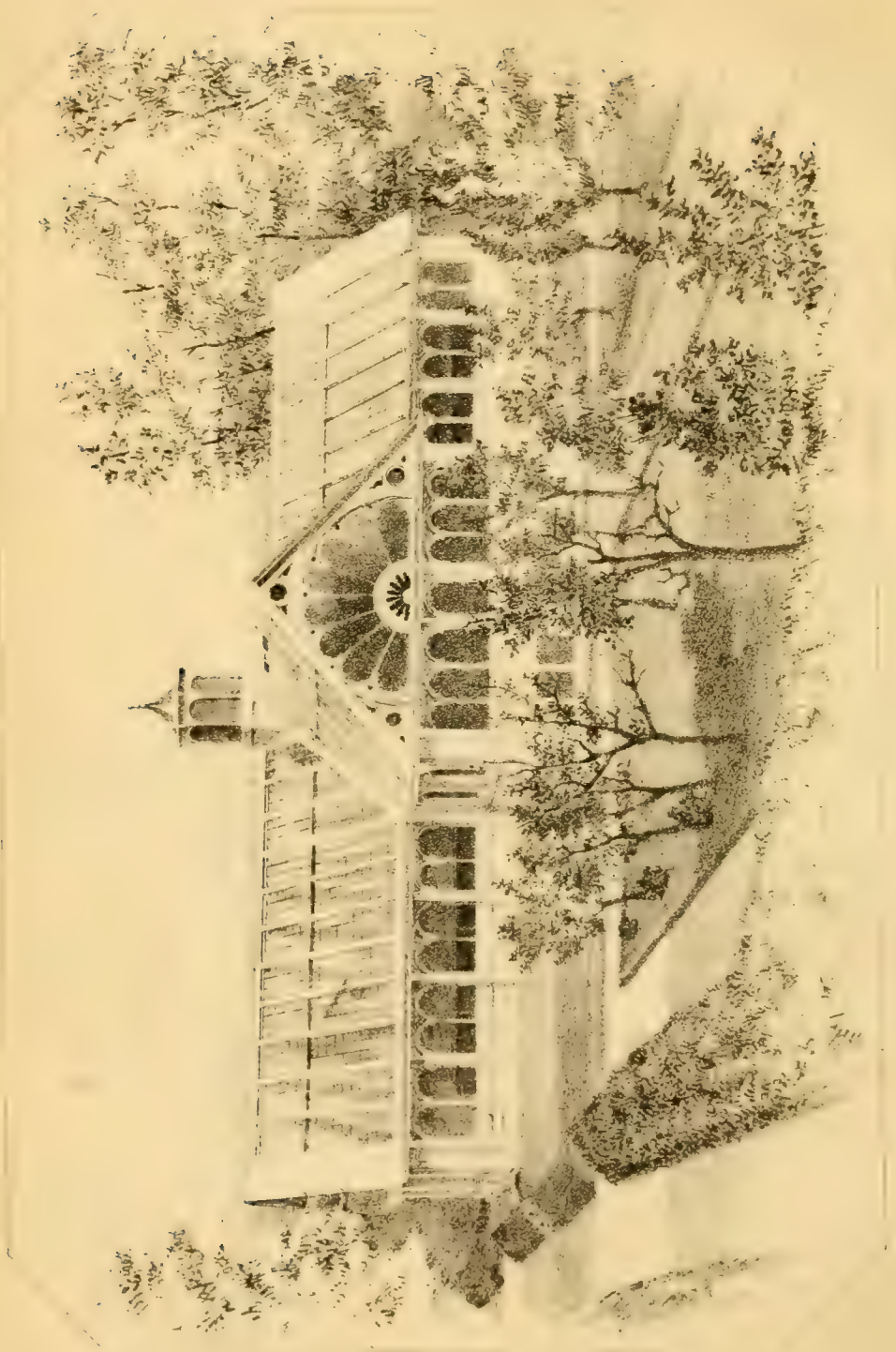
Wishing, as a society, success to your valuable publication,

I remain yours, &c.

THOMAS HARGREAVES, Sec.

Frankford, Nov. 10, 1853.

[We are much pleased to learn that your useful society has been so successful, and hope it will stimulate the formation of similar associations in other sections.—Ed.]



THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

FEBRUARY, 1860.

VOL. II.—NO. 2.

Hints for February.



FLOWER GARDEN AND PLEASURE GROUND.

Now that the physical season of the Gardener's year is replacing the mental, all winter work should be speedily got through with. Pruning especially must be finished up. Some kinds of flowering shrubs as *Althæas*, *Coluteas*, *Hypericums* and others that flower from the new growth, should be severely pruned. Others, as the *Lilac*, *Pyrus Japonica*, and such that flower from wood ripened last year, should merely have their weak growth thinned out in pruning.

In preparing to plant small places, arrange to employ plenty of shrubbery; nothing gives them so great an air of completeness and finish as these. Our remarks last month are still applicable.

VEGETABLE GARDEN.

There is nothing so acceptable as early vegetables, and one of the most useful aids to this is a hotbed. Every amateur should have one, as every well regulated horticultural establishment regards it as one of its most essential features. Not only is heat generated by manure more favorable to vegetation than that from any other kind of heat usually applied, but the manure itself, after being so employed, seems better than that preserved any other way. We would sooner have one load of hotbed manure for horticultural purposes, especially for pot plants generally, than two of the same kind of manure that had not been so employed.

The sashes for hotbeds are usually six feet long, and about three feet wide; costing from \$1.50 to \$2 when glazed and finished. Most of the cost of sash is in the work, the material costing little; so that, where strong glass can be employed, glass fifteen

inches wide can be used. We have some made this way, costing only eighty-seven cents each, completely glazed. The constant jarring of sash, however, finds out the weak places in the glass, and it is as well to have a few sashes, adapted for six-inch glass, in order to use up the pieces that occasionally offer from the larger sash. The frame should be about 2½ feet high at back, and 1 in the front—steeper at the back, if anything.

To make a hotbed, long stable manure should be employed, and if it can be turned a couple of times, before heating violently each time, before permanently using, the more regular will be the heat in the bed and the longer will it last.

A south-eastern aspect is best for a hotbed and it should be well sheltered from winds on the cold quarter.

If the ground is dry, the soil may be dug out about a foot in depth, but for very early forcing it is best to have the whole above ground, as when sunk, the cold rains or thawing snow collects in the pit and cools the materials.

The foundation for the hotbed should be about eighteen inches wider than the frame to be set on it when finished, and the manure regularly laid on till about the height of three feet has been obtained, when the frame may be set on. It is not well to tramp the manure too heavily, or the heat will be too violent. Sometimes the manure is very "strawy," in which case it should be watered with drainage from the manure heap, or the heat will be "a good time coming," when it would be very inconvenient to "wait a little longer."

When the manure and frame are both fixed, a half inch of soil should be thrown over the manure under the sash to absorb the gross gases that would else be too strong. For a few days after, the heat will be too violent, but when the thermometer indicates a temperature of 90°, operations may begin; but the usual aim is 70°. When the bed shows signs of getting below this, linings of stable manure must be applied round the frames, one and a half feet thick, and if boards, shutters, mats, or any similar material can be spread over these linings, the heat will be maintained much longer.

Having secured the hotbed, Dahlias, Annuals, Cu-

cumbers, Tomatoes, Peppers, Egg-plants, and many other interesting things can be started, by which we may get several weeks ahead of our neighbors in the enjoyment of vegetable luxuries, and when done with the bed in May, it will be the very place for gloxinias achimenes, and many other beautiful house plants which delight in a warm moist heat.

There is so little to be said in February that we have not said in our January issue, or what it will be time enough for us to say in March, that our hints are necessarily brief this month; but by the beautiful law of compensation, which seems to influence the *Monthly*, as well as the other more perfect parts of the universe, our other departments are so completely inundated by a flood of highly interesting correspondence, that it will be a relief to our readers to be allowed for once to flow easily and gracefully over the bar which our hints usually present to them at entrance of our monthly channel of intelligence.

Communications.

THE "FUNGUS" OF THE CUTTING BENCH.

BY PETER HENDERSON, JERSEY CITY, N. J.

Mr. Editor:—I presume that few practical gardeners but have had experience of this pest, and in noticing the subject it is with the hope that some from among your readers may give some remedy for its prevention, or if not, some solution of the manner of its production. The pest alluded to is the white spider-web-like appearance that we designate by the convenient term of "Fungus." As your practical readers are aware, a few hours contact of this substance with young cuttings of a soft nature is certain destruction; its course defying all the ordinary nostrums, of sulphur, lime, soot, &c.

In making experiments this fall to avoid this troublesome customer, I satisfied myself that its origin was wholly atmospheric.

The sand for our cutting Bench was carefully dug from three or four feet below the surface, and placed on the slates which had been previously thoroughly cleansed and washed with hot lime. Yet with all these precautions, in three days, the cuttings, or portions of them became affected with the "Fungus," even a portion of the sand, which had intentionally been left without cuttings, was here and there spotted with it. The atmosphere at the time was dense and foggy, which seems to be the state necessary to its development: for on persevering with our experiments we found, on the weather becoming bright and clear, that under the same circumstances we were entirely clear from it. Now if this annoyance is as we presume, wholly caused by a particular state of the atmosphere, to us a remedy seems out of the question.

But this belief once decided upon as fact, it would be the means of preventing many of the futile attempts to remedy it now in constant practice.

[By way of experiment this season we had a one light frame set under a willow tree, placing two inches of river sand on the bottom as a bed for cuttings. The idea was that the fungus originated from some "sour" (a convenient expression to a gardener) matter in the sand, which the vigorous fibres of the willow might feed on and eradicate. The frame was filled with cuttings of Azaleas, Pittosporums, and other things that usually suffer from the fungus. It was very successful. On one occasion only was it observed to make its appearance; but a light warm shower soon after occurring the sash was left off, exposing the cuttings to its influence, and the fungus from that time forward did not appear. We shall be glad if some other of our practical men will second Mr. Henderson's call for information.—Ed.]

NEW METHOD OF CONSTRUCTING VINERIES:

DETACHED AND DIVIDED BORDERS, ENTIRELY INSIDE THE HOUSE

BY WM. BRIGHT, LOGAN NURSERY, PHILADELPHIA.

We have for a long time been of opinion that the common method of constructing Vineries, with the Border partly outside of the house, was not only unnecessary but absolutely injurious to the health and fruiting capacity of the Vines. The success which we have attained in growing grapes in eleven inch pots, producing a large crop of the finest fruit without allowing the roots to extend beyond the limits of the pot, convinced us that borders of the size usually made were quite unnecessary. A moment's reflection upon the position of a vine, with part of its roots and all its wood in a Hot-house, and its main roots out of doors, would suffice to impress any one at all familiar with grape culture, with the evident absurdity of the practice. Those who have had any experience in the matter, know how much we are at the mercy of the elements when vines are so planted, how little we can control the heat or moisture of the border, and what sad attacks the frost makes upon the roots of the vines after all our care in mulching, &c.

To break away from an old custom, so hoary and revered as this, is almost impossible; but we determined to do it, and now present for the consideration of gardeners a Vinery constructed with the Border not only entirely inside the house, but detached from the front wall by an air chamber four inches wide, separated also from the bottom soil by concrete and air chambers, and from the earth inside the house by similar air chambers, and then divided into sections two feet wide by brick work so that the roots of one vine cannot mingle with the others, but each must remain as separate

and distinct as if grown in a pot. This we call a detached and divided inside Border, and we might add a suspended border, also, for the Border is absolutely suspended in air, and nowhere do the sides of the border touch the adjacent soil or wall of the house. Under this arrangement, we attain a perfect drainage, and have entire control over the temperature and moisture of the border, and we think it will work admirably in practice.

We have just built a cold Vinery for Dr. J. S. Houghton, of this city, on this plan, one hundred feet long, with a fixed roof, and a new method of ventilation, by means of numerous front and back shutters, which, in our vanity we are pleased to think is a model of cheapness, beauty, and efficient working capacity. The house is a lean-to, seventeen feet wide, built in the best manner, and cost, with a back wall of concrete, sixteen inches thick, solid as stone, only about \$450.

Without illustrations we can scarcely give a working plan of the house, but we may present such a description of the Border as will serve to convey a pretty good idea of it:

The box or pit, into which the soil is placed, is constructed of brick-work, resting upon a concrete bottom. This concrete bottom is so bevelled as to throw the drainage into a channel constructed on one side, to carry off excess of water. Bricks are then set on edge, eight and a half inches apart, running in lines from the front of the house towards the back, and commencing four inches from the front wall, forming a set of piers, as it were, for the bottom of the pit to rest upon, and also forming tubes, or air chambers under the pit for air to pass freely. The bottom of the pit is now laid with dry brick-work upon these lines or piers of brick, set on edge, being just the length or one brick apart. As soon as the bottom of the pit was thus laid, we built a wall of brick four inches thick (the width of one brick), four inches from the front wall of the house, to the height of two feet. We then divided the pit into sections of two feet, by erecting walls of brick set on edge, from the front to the back of the pit, of the same height as the front wall, making fifty sections or divisions in one hundred feet. After this, we finished the inside of the pit with boards, leaving a passage of four inches open to the air chambers below, so that the atmosphere of the house may circulate entirely under the border without obstruction.

This completes the detached and divided border. It consists, in fact, of a huge brick pit, separated from the front, bottom, and inside of the house by air chambers four inches wide, and divided into sections, or large pots or tubs, by brick walls. Each section or division is two feet wide, three feet long, and two feet deep, and will contain soil enough to grow and

fruit a vine fifteen feet long (with the addition of manures and special fertilizers, by top-dressing), for many years.

Now what are the advantages of such a border? We answer the roots of the vines are placed entirely beyond the reach of frost and rain; and we have the most perfect control over the temperature and moisture of the whole border, at top and bottom. The border does not even touch the front wall of the house, which in cold weather must be a constant conductor of heat away from the border, doing immense mischief, especially in a forcing-house. We can keep the border perfectly dry as long as we please in the spring, and we can dry it off as soon and and as completely as we please in the fall. The bottom of the border must always have an atmosphere about it of the same temperature as the top soil, or nearly so. We avoid the expense and care of a large border, which we are convinced is not only entirely unnecessary, but often highly injurious to the health and fruitfulness of the vines.

Again, with the regard to the divisions into sections or large pots, we can discover numerous and important advantages. It enables us to grow, in immediate proximity, vines of different degrees of vigor, which cannot be so grown in a common border, where the roots mingle together, without injury to the weaker kinds. It gives us an opportunity to water or to stimulate one vine without affecting another, or to withhold water from one without diminishing the growth of its neighbor. It permits us to try experiments with different fertilizing agents on single vines, and thus much may be learned, by comparison, of the value of different fertilizers, which cannot be done in a common border, with the same ease and precision. In the divided border, we can take out and put in vines at pleasure, without injury to the roots of other vines, and without breaking up a large portion of the border. If any vine proves too weak, or of a poor quality, we may remove it at once, and replace it with another vine of a better character, with the greatest ease, and the young vine so introduced, having a section of the pit all to itself, will receive no check from the roots of other vines. This is an important advantage. There is no reason why we should be so much hampered by the impossibility of changing the stock of a Vinery, without grafting, inarching, &c. By the plan here described, all this difficulty is avoided, and we may change the vines in a house as easily as we change the stock in our pots; removing unprofitable vines, and substituting fresh ones, well grown, from pots, ready for fruiting in a single year, whenever we choose, without difficulty, or without injury to the balance of the house.

This border, you will say, remains to be tried.

This is true; but if we can fruit a vine with success and profit in an eleven inch pot, containing only about half a cubic foot of soil, can we not fruit a longer cane as successfully in twelve or fifteen cubic feet of soil, in the detached border?

Then, again, this border may easily be extended, if found necessary, to six feet or more long, with very little trouble and expense, though we doubt whether this will be required for many years. Or, the border may be made wider at first. But we think we prefer to have the inside of the house for other purposes (at least for a year or two), say for a propagating bed, or for a row of figs, or any thing else you please. We shall of course expect to top-dress the border, very freely, with liquid manure, and special fertilizers; and we much prefer this method of growing grapes, where every part of the culture is under perfect control, to having large, cumbersome, sodden, sour, useless borders, exposed to rain and frost, over which we have little or no control.

The house in question, which we have just completed, is somewhat new in its construction, in other respects than those alluded to. It is set upon a terrace two feet high, to prevent it from looking too low, but the front sash and ventilator is only eighteen inches wide, and hence the roof is brought within two feet of the border, and the house is nowhere more than six feet and a half high, and has such a pitch to the roof that the grapes, when formed, must hang down, inside of the house, under and clear of the foliage, which, we think, adds much to the beauty of the sight which a house in full fruiting condition exhibits to the spectator.

This house will contain fifty vines, which most grape growers will no doubt think too many for the length of it; but we will now merely say that they will be trained upon a new system, which requires double the number of vines usually permitted in a grapery. This system we have now no opportunity to describe; but we shall do so very soon, in the columns of the *Gardener's Monthly*, if permitted by the Editor, and shall also present it very fully in our forthcoming work on the Grape, which will be published early next spring.

In the meantime, we invite our friends and any one interested in the subject to call upon us and inspect this new border, and criticise its merits.

WAXING GRAFTS.

BY A. MATTISON.

PADUCAH, Ky. December 4, 1859.

Dear Sir:—As the season of grafting is near at hand, I think that all interested should exchange their experience on the best mode of doing it, and as I am an old hand of 25 years' standing; and noticing a communication in the *Monthly* from Mr. Kelsey, of Miami

County, Indiana, relating to bandages, I will just say that I consider bandages as very "old foggy affairs," and have long abandoned them. I spend three or four months every year, grafting in various ways, and I never use a bandage. I lose very few, as my nursery will show. I graft Apple, Peach, Pear, Plum, Cherry, and if needed, Quinces, Roses, &c., but use no bandages. I use for root grafts common rosin mixed with a little lard, a little beeswax added would be better. It is harder than shoemaker's wax when cold. I warm it a little when using, pick a little piece off, press it a little flat, then wrap it round the grafted place. It entirely prevents all water or wind from injuring it; it binds like a hoop of iron, but when it becomes warm enough for the graft to grow, it will expand sufficiently. For out-door grafting, I use the common composition of rosin, one-eighth of beeswax and lard or oil; not much of the latter, just enough to make it so that when it is cold, it will not break. I put it on, in all cases, with greasy fingers. I can put on one thousand bands of wax per day, out of doors, more of inside grafting. I think it is much the easiest, prettiest, and safest way.

[Our grafters will, we hope, reciprocate Mr. Mattison's favor with their experience. We saw, we think in the *Scientific Artisan*, last year that melted rosin poured in alcohol, and kept in a closely corked vessel, made a composition that would keep for any length of time, so as to be used at a moment's notice. We have found it excellent, never getting entirely hard, but remaining air and water tight. The grafts have, however, been tied with bast previous to being coated with the composition, and we cannot say whether it would be a sufficient bandage for root grafts, though it is probable, as root grafted roses are often neither waxed nor tied.]

HORTICULTURE IN ILLINOIS.

(EXTRACT FROM A PRIVATE LETTER.)

OTTAWA, Illinois, Nov. 10th, 1859.

Knowing that anything pertaining to the culture of Flowers and gardening generally, will be appreciated by you, I have concluded to drop you a line from this city which is located in one of the most densely populated counties of the State, and enjoys one of the finest localities in the West, both for natural scenery and richness of soil. There are in the vicinity of Ottawa quite a number of nurseries, and fruit growing, though much neglected in this part of the State, seems to have of late years taken quite a start, and at the recent county fair I witnessed as fine a display of fruit as I have ever seen at any similar exhibition in any of the older states. There are also several very superior greenhouses in this section of the State; one of the best is located in this

city, known as "The Buena Vista Gardens." This establishment is owned by Hon. W. H. W. Cushman, and is managed by Mr. William Chalmers, formerly of your city, who, from his skill as a gardener, taste and general knowledge of the business, has few superiors in the country.

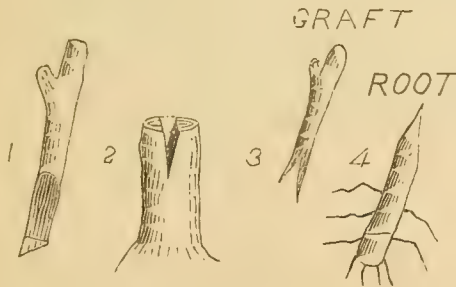
As I was fortunate enough to be here at the time the La Salle County Agricultural Fair was held, I of course, availed myself of the opportunity of giving the grounds a fair inspection. All departments were well represented, and considering the unfavorableness of the season, I think the show was highly complimentary to the country, and satisfied me that the soil of Northern Illinois will produce better crops, under all varieties of seasons, than any other state I have ever visited.

GRAFTING THE GRAPE.

BY S. MILLER, CALMDALE, PA.

As early in the Spring as the ground can be got away from the stock to be grafted upon, clean away around the stem two or three inches deep, saw or cut off the vine smooth; then prepare your graft, (which should have been cut from the vine in the early part of the winter,) as shown in figure 1.

If your stock is thick, say one inch or more in diameter, cut out a wedge, see figure 2,



to correspond with the wedge on graft fig. 1; if the stock be less than $\frac{3}{4}$ of an inch in diameter, then merely split down clean, as in the usual way of cleft grafting, but if the graft be not held firmly, it is well to tie around the split with a bit of matting or strong thread; which will rot off before doing any damage. When you have inserted the graft, draw the earth in and press firmly around the joint where operated upon, and up to and barely exposing the bud, filling in with dry mould if the earth be wet. Use no cement whatever; I believe it is a great evil.

Be sure to cover your graft with loose straw or some kind of rubbish that will not pack tight; this is to keep the frost from hoisting out the graft, in case freezing occurs afterwards, which frequently is the case, as I have grafted in February sometimes, as

well as to shade the bud and keep the air off somewhat—a necessary precaution. When the graft begins to grow, the natural or stock suckers must be kept down or they will soon rob the graft. I have usually succeeded in this way with about 80 per cent., while I hear universal complaints of failure. For root grafting in the house my best success has been obtained when done in the saddle mode. And this done late in the Spring when the vines begin to grow.

In fig. 3 I give a rough sketch of my mode of root grafting, many of which, in one season, when set out in May, attain a growth of six feet. My impression is that if a vine is transplanted in the Spring, you may graft pretty successfully at any time that same Spring.

By the former mode I could, a few weeks ago, have shown you Logan, Delaware, North America, Pauline, New Hanover and others from 8 to 15 feet growth, set last spring in ordinary stocks.

One important part has almost been overlooked; you must select stocks of as near similar wood; for instance, Delaware will hardly take at all on a rank fox, while upon Clinton and our wild frost grape it takes very freely. Almost any kind will take upon Isabella. Yours truly, S. M.

[So many parties complain of failing to graft grape vines successfully, that we cannot but regard this first contribution of Mr. Miller to our pages as a very valuable one, and hope he will continue to favor us with his valuable experience, which, in matters appertaining to out-door grape culture, is so extensive. —Ed.]

REMEDY FOR THE PEACH BORER.

BY E. KELLY, BRIGHTON, N. Y.

Like "JOHN," (Lynchburg, Va.,) I have been troubled with the borers. I have tried baring the roots of the peach tree in order to stop the borer, with no better success. I have also tried wood and coal ashes, which proved a failure. Chamber-ley is particularly successful, but I consider it dangerous. The most effectual remedy I have yet tried is to use the knife first to dislodge the borer, then to fill the scar with pulverized sulphur. Peach Growers and Amateurs, try it. EDM'D KELLY.

[And we would add, afterwards keep them out with tarred paper.—Ed.]

PEELING WILLOWS.

BY A. MATTISON, PADUCAH, KENTUCKY.

As the subject of the basket willow is now claiming attention, I may say that I think the best method of peeling them is not generally known. When I was a young gardener, about the garden sheds we used to make a great many baskets, and the best way we

might do the work of many a day's scraping, and as Mr. M.'s experience would indicate, without injury to the willows.—ED.]

knew to get off the bark of the willows was to boil them in some kind of an old pot; it is a very easy way, and very simple.

[This excellent hint might be improved on in the extensive preparation of the willow. Long troughs, through which hot water or steam could be forced,

CUT FEED FOR CATTLE.

BY R. P. R.

QUINCY, Illinois, Dec. 5th, 1859.

Friend Meehan:

Hearing of scarcity of fodder in the state of New York, I thought I would state how I managed one winter, some fourteen years ago while living in Western Reserve, Ohio. A June frost destroyed our wheat, hay, &c., but our corn gave us a fair crop. Being then in the practice of medicine, and poor, I had but one cow and two horses. I bought 4 cwt. of hay at one dollar per 100 pounds, and about 5 cwt. of straw, and thirty bushels of ears of corn. I had the corn ground, cob and all; I took my axe, cut my hay and straw as fine as I could, being too poor to buy a steam cutter. I put the straw and hay after it was cut, into a tight box, sprinkled on some of the meal, then poured on boiling water and let it stand until the next feeding. The result was, I had to buy 12 bushels more of corn, and I never had my horses look better in the Spring, and my cow gave us a fine mess of rich milk daily and looked as well as my horses did. I presume the hot water steamed the straw, which added to it more nutriment which I should not have got without it.

I am satisfied that, as a general thing, farmers feed twice the quantity of feed to their stock that they need to do. A farmer can make as much in saving his fodder, as he can in raising it. Some object to feeding cob meal—think it dangerous—but I have seen it fed in the lumber regions, month after month, without the least sign of injury. We are too apt to feel as though it were too much trouble to cut and steam our fodder, but it pays well.

EARLY VEGETABLES.

BY F. H. L., MORRISANIA, N. Y.

To save labor and time, in our short Springs, every hour gained counts considerably. I take any piece of ground that can be dug in Fall, and dig and let it lay roughly to freeze through winter; and in Spring, only loosen the place where I plant; and after the crops get fairly started, I fork the ground deep after the heavy Spring rains have ceased, the ground keeps loose and porous all summer. The crops I treat this

way are Potatoes, Melons, Watermelons, Cucumbers, Squash, Corn, Peas, Tomatoes, Egg-plants and Peppers.

Potatoes I plant no deeper than I would Bush beans; cover well with half decayed manure, and this with earth. I find they bear abundantly, are earlier and do not rot so badly as those planted deeper. When they want their first hoeing, I fork them up well.

Peas I plant four feet apart, the row as wide as a hoe will make it by drawing it along the line, and for the earliest crop I dig along the line and put a good deal of long fresh manure in; by keeping the ground loose and warm this way, they come earlier. In one of last year's numbers you gave as a rule, to manure just before planting. I beg to make an exception for Cauliflowers and Cabbage; for these I trench in the Fall, after the subsoil is loosened, deep. I put in a good coat of manure, and then the topsoil rough, and have seldom club-footed, useless plants.

The small seeds I always start till they sprout. Mix in a pot or box, a layer of sand and another of seed. Put them for two or three days in a moderate hotbed, or from four to six days in a room, and gain, I am sure, ten or twelve days of what is often delayed by the heavy spring rains.

[In a private note our correspondent says that he does not suppose his hints contain any thing new, and are perhaps not worth publishing. But what is well known to a few, is news to the many, and such articles as these are the very ones we value most. Friend F. H. L., pray continue your excellent notes.—ED.]

THE LONG GRAPE.

[BY W. N. WHITE, ATHENS, GEO.]

The December number of the *Gardener's Monthly* contains, I see, a very correct illustration of the Long Grape. Having, I believe, furnished the vine to Mr. Downing, from which Mr. Miller's bud was taken, I feel enough interest in that cluster of grapes to give you a few brief notes on the history and quality of this variety, to which I will add a word or two on other grapes.

The original vine was discovered in the woods of the adjoining county of Madison, about thirty-five years since, by the late Col. James Long, on his own plantation near Danielsville. My own vines are from cuttings obtained from his son. It is one of the varieties of *Vitis aestivalis*, and the form of the leaf is strikingly like those of the Lenoir, but it is easily distinguished by the tips and leaflets of the young shoots being hoary with down, while those of Lenoir are but slightly downy and have a more yellowish tint in the green of the young leaves. When Dr.

Grant was here, in 1857, he learned thus to distinguish young vines of the two as soon as these differences were pointed out.

Col. Long removed the original vine to his garden, and I am told, one year, a barrel of fine sparkling wine was made from it. It is a profuse bearer, if pruned long, and the clusters are very attractive as they approach maturity; when fully ripe, the berries are a very dark brown, nearly black, with a blueish bloom, very much darker in color than the Delaware, to which you compare it. This grape ripens with the Warren, (or as you call it, the Herbemont) and will hardly become fully ripe north of your city. As to its quality, my wife, who has been commenting on your illustration while I am writing, hits it exactly: "The Long Grape!" "the figure looks very natural. It always hangs in such beautiful clusters, but it is a poor grape to eat. They are too full of seeds and taste too much like the wild grape." "You know we never use them when we have the other grapes." And indeed, we never do.

As a wine grape, I doubt if it will do. The last two seasons I intended trying it, but while leaving it on the vines to mature fully, in both cases when I had determined it was about ready, within a day or two, quite a large proportion of the berries decayed and I gave up the intention. The Lenoir or Warren neither trouble us in this way. Warren often rots when half grown, but the berries that mature will remain sound on the vines for weeks.

The Long Grape cannot then be recommended as a table grape, and is of doubtful value for wine. Messrs. Peters, Harden & Co., wrote me, last summer, they intended to graft their vines of this sort with other varieties, the coming Spring. They obtained it in this country, under the name of Whilton.

The Warren, properly managed, is a most desirable grape, but no grape that you have yet received from the South is so well suited to your climate as Lenoir. In quality it equals the Herbemont; its wood ripens in the Fall, and the fruit ripens with the Delaware, or scarcely if at all, later; and it always bears a good, not an enormous crop, which keeps well on the vines when ripe, if protected from bees and birds, and it never rots before maturity. Where Lenoirs and Warrens are abundant, very few Catawbas and Isabellas are used for the table, both of which are superior to the Long.

I hope your nurserymen will take up this grape and give your readers a chance to obtain it. If you would like, I will, with pleasure, send you a vine or two by express. I have no cuttings left. Peters, Harden & Co., of Atlanta, and Mr. Berckman's, of Augusta, have, however, a stock of the vines. Dr. C. W. Grant also has it raised from cuttings I sent him two years since. The Herbemont and Lenoir,

found in most Northern nurseries, are both the true Warren, and identical; some few, however, have the true Lenoir.

Yours respectfully,

WM. N. WHITE.

STATE AGRICULTURAL SOCIETY.

BY DR. J. K. E., DOWNINGTOWN, PA.

With your permission, Mr. Editor, some objections to the horticultural department of this Society will be made.

The custom generally prevalent, and indulged in extensively by some of your cotemporaries, of lavishing panegyric upon officers, marshalls and everything connected with the exhibition, may be well enough; but to point out defects is a thankless task.

Would it not be of more, at least equal importance to know what were the best six Fall varieties of Apples; second best do, third do, and so of all the best of the fruit, than to know by whom exhibited? We might have both. For Isabella grapes, premiums amounting to \$12.00 are awarded; for Catawbas, the same; then, for the encouragement of experimenters to hybridize, sow seed, and cultivate for years, "For the best bunch of New Hardy variety, superior to the above," *One Dollar!*—marvellous liberality! Six times less than offered for "foreign-grown out-doors." An operation not ever likely to be popular or profitable. We have yet to learn what was that new hardy variety. Might not the official report have informed many anxious to hear?

J. K. E.

[We have a communication on hand which we shall give in our next, from one who has been intimately connected with horticultural exhibitions for over twenty years, and whose suggestions we can, from our own observations in a great measure endorse, and which communication we think will cover all the points our correspondent suggests to us, and be well worthy the attention of all interested in the improvement of horticulture.—ED.]

TRENCHING GROUND.

BY "DIGGING FORK," CENTRE COUNTY, PA.

"Keep the surface to the surface." This principle is advocated and acted upon by some of the most successful soil culturists, but the general practice is directly the reverse. In our heavy loam we find the best growth everywhere and very decidedly, where the surface is dark with its natural and original coating of humus. In an experiment made here by Mr. J. S. Read, embracing various applications of different manures to potatoes; the compartment to which yard manure was applied on the surface has decidedly the best show of tubers. Melons have grown best, be-

yond comparison, on a rich sod, *neither dug nor plowed nor hoed*, but merely covered with three or four inches of chip mould. Among the amateur (spaded) lots, those have been most successful which have been worked with forks, and least inverted.

It is well known that, if old pasture lands be plowed deeply, inverting the sod, the natural grasses do not recover their free and luxuriant growth for years; not until a favorable open surface has again been formed by the decay of vegetable matter.

And it is seen everywhere that nature is uniformly successful in the growth of trees and plants by the sole and simple process of surface mulching and manuring, added to the annual heaving and loosening by the agency of frost.

Do the advantages and conveniences of the upside down practice overbalance its disadvantages in any case, excepting in the plowing of sod? Even in that case it is best to turn a shallow furrow, and deepen with a subsoiler.

DIGGING FORK.

[The above, from the pen of the author of one of our best practical horticultural works, we welcome as an excellent contribution to a subject which the *Gardener's Monthly* has so prominently brought up the past year, and which, we think, is proving one of the most interesting questions to the cultivator ever introduced.—ED.]

DWARF PEARS.

BY DR. GEO. P. NORRIS, WILMINGTON, DEL.

Dear Sir:—As you are good enough to invite contributions from all persons who feel an interest in Fruit culture, I take the liberty of sending you a few lines on a subject in which I take a deep interest, viz:—the Culture of Dwarf Pears.

Six years ago I commenced with some dozen dwarf trees. I have yearly added to their number, and am well satisfied that *they will pay*, either as a profitable investment for the market gardener, or as one of the greatest of pleasures to the amateur. I also contend that, with ordinary care and attention, they will amply repay the cultivator for his time and labor, neither do they need "as much care as an infant," as I once heard a cultivator say, when speaking of a dwarf pear tree.

Your able and intelligent correspondent, Mr. Bright, of the Logan Nursery, Philadelphia, has hit on the true secret, and any one who follows his directions in his article on Dwarfs, published in the *Gardener's Monthly*, will have fine fruit with little labor and expense. My views are only a reiteration of his sentiments, and I fear, not as well expressed; however, as every one should add his mite to the general information fund, I will give mine, and commence with

How Dwarf Pear Trees will pay:—First, let the

ground be carefully trenched, and let not the cultivator fall into the sad error that some of your correspondents have committed, namely, of burying their good soil two feet below the surface. *Let the subsoil still be subsoil*. Trench two feet deep, throwing out the first spit of the top soil by itself, to be returned in the other end of the border. If the ground is low, or retentive of moisture, underdraining is absolutely necessary. I have no underdrains, and yet I have the finest pears; but my ground is naturally dry, and a few hours after the heaviest rains, the ground is in working condition.

Let the two feet of subsoil be thoroughly incorporated with a compost made of one-third well-rotted stable-manure, and the remainder, the top surface of an old pasture field, a few handfuls of ground bones, and a peck of wood ashes, to each wheelbarrow load of the compost, will be an improvement, but is not absolutely necessary. The trees should be carefully selected, if possible, by the purchaser in person, two years old from the graft. Now, as to kind. I am well aware that I shall be found fault with, but intend to give you my experience, be it worth much or little, it is my honest conviction. The Bartlett is the pear for the Quince; not only is it finer flavored and of much larger size than when on the pear stock, but it is always a certain bearer. Many will say, the Bartlett should not be worked on the Quince, as it is apt to slur off. This I deny. Only plant rightly, i. e. by planting deep enough to cover the point of union on the Quince stock, and it will stand as firm as a rock, and as hardy as an oak tree. This is no theoretical observation. My Bartletts have stood on one of the highest and most exposed hill-sides in Delaware, during the last six years, and have been subjected to some blows only little short of hurricanes, not one of them has given way at the graft. I have had limbs blown off, heavy with fruit, but not one has parted at its junction with the quince. Now, so much do I think of the Bartlett that I do not think it possible that it can be too highly extolled; and if I were about to plant 500 dwarfs *for profit*, 450 should be Bartlett. Make a note of that, Mr. Editor. This is not only my own experience, but that of some of my neighbors. Such Bartletts as I fruited this last summer, hand-picked and house-ripened, would readily have brought from 10 to 15 cents, if exposed in Vansant's window, Tenth and Chestnut Streets. But I am getting prolix. Taking it for granted that you have planted thirty two year old Bartlett's, (the point of junction with the quince about $\frac{1}{2}$ an inch below the surface,) in such a border as I have described, with a sharp knife in the latter part of the month of November, (before winter sets in severe,) cut back one half of last summer's wood, prune them pretty severely, cutting back the leader until about

four inches of the point of starting the previous Spring.

I do not believe that you, Mr. Editor, could do the Dwarf growing community a greater favor than to publish Mr. Yeoman's Sketch, "How to prune Dwarf Pear trees;"—it is accompanied with a cut by which more can be shown on a half a minute's inspection, than in half a dozen sheets of foolscap. But I fear you will lose all patience with such a wordy correspondent, and I will conclude by saying that if the Bartlett borders are surrounded every Autumn with a coat of stable manure at the rate of twenty two-horse cart loads to an acre, and this worked-in in the Spring; the trees kept well pruned; the ground be kept free from grass or weeds; the proprietor occasionally on the look out for insects. Should any happen to annoy him, a good dose of Friend Paschall Morris' Whale Oil Soap, with a common hand scrub applied some fine warm October day,—if with this attention the proprietor is not amply repaid with an abundance of rich, luscious fruit; if, I say, he is not amply repaid, then will I confess that I am in error, and Dwarfs are a humbug.

Mr. Editor, my communication has reached such an unwarrantable length that I hardly dare hope to see it ever in the *Gardener's Monthly*. If, however, you think it would be of the slightest service in promoting the culture of the Dwarf, do to it what I so strongly recommend to the tree—*prune it severely*.

Though personally unknown to you, yet I feel that to one who has furnished me with so much pleasure and so much profit during the past twelve months, for the trifling sum of one dollar, I feel such a sense of indebtedness that I could not conclude this hastily written article without returning to you my sincere thanks for the obligations that you have put me, as well as many Delawarian readers, by the establishment of such a truly useful publication as the *Gardener's Monthly*.

GEO. PEPPER NORRIS.

[Pruning and thinning the fruit, regulating thereby the demand on the limited space the quince root, from its nature, is compelled to occupy, cannot be too fully dwelt on in Dwarf Pear management. We had laid aside Mr. Yeoman's excellent Treatise for republication in our paper; but as we recommended it so strongly in our notice of it, supposed all our readers interested would procure it direct from Mr. Yeoman's, which they probably have done. Much injury has been done to Dwarf Pear culture by too free laudation of its merits; and on the other hand, a too indiscriminate censure. We have endeavoured to report circumstantially, failures and successes equally, and think the result in the community is a returning confidence in their value when their wants are understood.—Ed.]

CLIMATE OF OREGON.

BY P. W. GILLETT,

ASTORIA, November 4th, 1859.

Editor of the Gardener's Monthly:

Our climate is unlike any other with which I am acquainted. Winter at Astoria (46° N. Lat.) is about as mild as the same season in N. Lat. 33° on the Atlantic coast; while our summer goes on the other extreme—invariably cool and pleasant. Persons coming here from very warm climates, at first think our summer weather almost too cool. Such a thing as a "hot night" never was known at Astoria. No people enjoy better health than we do here. You may form some idea of our climate by its effect upon the ripening of fruits, &c.

In Southern Ohio, (my old home,) the Baldwin was a Fall Apple, here it is an excellent winter fruit, and keeps well until Spring. Here the Talman Sweeting, Rambo, Fall Pippin, &c., are early Fall Apples, when they keep until mid-winter, the Fall Pippin later. There the Roxbury Russet grew very large, skin nearly covered with bright russet; the tree did not bear until it had attained considerable age, and refused to bear full crops until about eight years old. Here the fruit is of medium size, with a brown-red cheek in the sun, and green in the shade; skin slightly russet. The tree bears at 3 years old, with full crops thereon. Some sorts that bear only alternate years there, bear every year here, while the size and colour of some are increased, of others diminished.

It is wonderful to mark the effect of climate upon fruit, even the form of many varieties is materially changed.

We are just about through with gathering our winter apples, (Nov. 4th.) We have about forty varieties, all of which promise well. My Catawba grapes are just now ripening, although, upon the south wall of my house, I doubt whether they will ever attain their natural flavor.

The early Peaches ripen here about the first or middle of October, but they lack sweetness and cannot be grown to any advantage in this part of Oregon. The interior of the state has warmer summers, while Peaches and Grapes succeed better. Apples, Pears, Plums, Cherries and small fruits produce well, and are of the finest flavor. Wild fruits, berries, &c., abound here. The Native Strawberry is abundant, and the sweetest I ever saw. Cranberries are plentiful quite in the marshes, of fair size and good quality. There are four varieties of the Whortleberry; the red is best and bears abundantly, and is nearly as good as the red currant. The ivory-green Whortleberry is an evergreen shrub of unrivalled beauty. Sallalberry, an excellent fruit. Salmon-

berry, a raspberry of great beauty, but not as highly flavored as many others; its color is bright orange; the canes of this sort do not die annually, but live and bear many years.

We have also the Black Raspberry, Blackberry, Thimbleberry, Serviceberry, Wild Crab Apple, &c.

I regard Oregon as one of the best fruit growing districts of the United States.

Yours truly,

P. W. GILLET.

[Hope our correspondent will continue his reports from this distant section of our horticultural parish.—Ed.]

SUSQUEHANNA PEACH.

BY D. MILLER, CARLISLE, PA.

On page 27 of January number of *Gard. Monthly*, you ask whether any difference exists between Griffith and Susquehanna? I venture the assertion, *positively*, to say, there does not.

One of Griffith's sons picked the seed, or pulled up the young tree after germination, from the bank of the Susquehanna River, at Harrisburg. It was called Griffith, Griffith's Mammoth, Griffith's Mammoth Melacoton, Griffith's Melacoton, &c., by every one about Harrisburg, and is yet I believe. I had settled on the name of *Griffith's Mammoth Melacoton*, (too long for convenience,) and put it out in a Catalogue, issued for 1849-50, under that name. Afterwards, in some correspondence between Dr. W. D. Brincklé, of Philadelphia, and myself, he proposed Susquehanna as more appropriate, to which I objected; stating that I had distributed it under my name and did not feel justifiable in altering it. Unfortunately, he had also sent out buds of it under his name *Susquehanna*, and wished it should stand. I yielded, and in my next issue of Catalogue, put down Susquehanna, with G. M. M. as a synonyme. Was I justifiable? I think so at least.

Myself and some Harrisburg people put it out under several names, and others under Susquehanna. Although it is very popular, and one of the most magnificent of Peaches when in perfection. I find, and regret to have to say it, that it is not so certain in its crops as some others here, unless in a suitable soil. It has, however, proven itself of superior quality and excellence in more southern localities. Hoping this will in part answer your query,

I am &c., yours, DAVID MILLER, JR.

P. S.—You are right in saying the Water Apple of Bucks county is only second-rate. I consider it not any more, having received specimens of it this Autumn. But, as they say, its prolificacy, tender flesh, with abundance of juice, will no doubt make it a favorite with many.

Yours, D. M.

[We are very much obliged to Mr. Miller for the

account of the origin of the two names. Synonyms are great evils to the buying portion of the public, and a name once given to a fruit ought to be rigidly adhered to. Had Dr. Brincklé understood previously to his naming it, that it had been *distributed* under another name, we are well assured he would not have sent it out as "*Susquehanna*."—Ed.]

HORTICULTURE AND THE MASSES.

BY J. B. BRASSIER, BROOKLYN, N. Y.

It remains a fine task for some competent historian to give us a history of the human race, to be narrated, not by lists of kings, battles, and the customary landmarks, but by the ebbs and tides of the heart and the mind of nations. We shall then get a clearer knowledge of what the human race has been capable of; and in consequence, we shall be able better to deduce the future from the past.

Our future, that is the point. Made up, as it is, of every passing minute of our never present present; we cannot do better, at the beginning of a new year, than take stock, like good business men, and ascertain our standing; and we find immediately that there is but one idea fills this century—MONEY. The word is harsh, but it is true, nevertheless. If we justly blush, we also perceive at the same time, that Providence uses the means we use for obtaining money in her *own* way, uses them as mighty levers for our progress and ennoblement. As there has been a heathen era, a religious one, a chivalrous one, etc., so is ours the industrial one. Trade and mechanics now have their turn to bring mankind nearer to perfection. But whilst they develop the ingenuity of the human mind, they also rouse the human heart, for we are ever unconsciously striving for humanization. Thus, professed religion strives to merge into practised one, and the hard working head and hand stops the wheel it turns to take up the higher and the lesser arts. Amongst the latter we count horticulture, though from its influence on man we might look for it amongst the higher arts.

Shall we now take an inventory of the state of horticulture in these United States? No; that would be a thankless job. Your readers know well what has been done, how very little, comparatively, there is doing, and how much there remains to be done.

I would not now, if I could, tire them with dry statistics and long-winded homilies. Rather will I present them to-day a new way how to get to know ourselves. *Lite in speculum*,—"like looking into a looking glass," let us go and see ourselves in—the *French Nation*. Reader, do not startle; however different you deem yourself from a Frenchman, read the following extracts from a discursive article in a French gardening paper;—till then suspend judgment.

"Whoever is a friend of horticulture is very much

interested in those associations whose mission it is to further, not only round larger cities, but into the most isolated villages the taste for and the cultivation of flowers, trees, fruit and kitchen gardens, and the study of plants. Judging from the reports in the papers, the matter progresses and the circle widens. Looking however, closely, we can not help to find the work going on but slowly. Go to the villages and the farms, away from the large cities, and you vainly look for the smallest flower bed, or for something like a hot bed; the fruit trees run wild for the want of cultivation, and as to ornamental trees they are a thing unknown; the old forest trees fall, one by one, under the woodman's axe."

Can we not fancy the writer speaks of any state you please in our own country rather than of his?

"And what do our Societies do to prevent this decline? Premiums are given to rare plants, mostly to greenhouse and stove plants. Standard of merit is—novelty and variety. The names you hear are none but Latin ones, abominable Latin, jaw-breaking, and the ear does not keep them. Useful things, and such as are everywhere fine, are not much made of. Things are not brought down to the people. Exhibitions should be tables of instruction, such as everybody should be able to fluently read."

Still, the good cause progresses both in Europe and America; our aim only should be to fire up and bring more life into the tardy pace.

I will conclude with the words of the same writer:

"It is certainly desirable that the windows of the attics in city houses should transform themselves into gardens, even in the sombrest streets: better, however, will it be if every cottage in the land had its garden plot and its 'square' of good vegetables and good fruit."

[There is much that is well worthy of our reflection in the suggestive article of our correspondent.—Ed.]

ODDS AND ENDS.

BY SCHUYLKILL.

In paying a visit recently to the establishment of PETER RAABE, in your city, I noticed that he makes considerable use of oiled paper as a substitute for glass, over his cutting-boxes in his propagating department. This is no new idea; but too little practiced; it is more economical and better than glass. Mr. Raabe uses thin white newspaper, saturated with any kind of oil. He puts his cuttings in shallow wooden boxes, half filled with earth or sand, and then merely throws a sheet of this paper over them.

A lady friend of mine describes an "extemporaneous" fern case, for a drawing-room, as follows:—Procure four panes of glass, of any size, and bind

each pane with broad black linen tape, this is done by sewing the tape at each corner and stretching it very tightly. After each pane is bound around with the tape, they are then sewed at the upper and lower edges together, forming a glass box without top or bottom. The plants are planted in a wood or tin box, and this glass case placed over them, and the top of the case covered with a loose pane of glass. This case can be made square or octagonal.

A pretty way of ornamenting a hearth, during the summer, where wood is used as fuel during the winter, is a mode much practiced by the farmer's wives in Delaware and Maryland:—Branches of any kind of evergreen are dipped in ordinary whitewash, and when dry placed in a large vase or flower-pot. They would be taken for beautiful specimens of seaweed or coral. They will keep a long time.

One of your correspondents has recently been suggesting several substitutes for box edging. In a kitchen garden, where horse labor is not introduced, nothing can take the place of box; but it is desirable frequently to have flower-borders around the different compartments, of the width of about three or four feet, and nothing forms a better background or back-edging for this border than the common large blue or white flag. In this latitude it is an evergreen, and is but very slightly affected by the hardest frosts. When in flower it is very gay and beautiful. I have used it in this way for a long time, and have some two thousand feet of it, which gives us no other trouble than occasionally to thin it out, which can be done by pulling it up by the roots. Where box cannot be had, I would have no hesitation in recommending it for the edging of the walks of a kitchen garden. I am not sure that north of this latitude it will keep green in winter, if it does not, it will not, of course, answer.

Whilst paying a visit recently to the neatly kept plant-houses of Mr. FAHNESTOCK, in your city, I was much pleased with the beauty of the moss-covered side walls of his orchid-house. They are formed, I believe, as follows:—Strips of wood, about an inch square, are nailed on the walls at about eighteen inches distance from each other, and in them small lath nails are driven about an inch apart with their heads projecting about a quarter of an inch from the strip. Small wire (copper is the best) is then stretched from one of these nails to another and secured; and so on, until the whole wall is covered with a kind of network. Common moss or sphagnum is then stuffed in behind the wire, and then the surface is planted with *Selaginella* (formerly *Lycopodium*) *densa* or *denticulatum* and kept well syringed. Over this beautiful green velvety surface. Mr. Sutherland, the skillful gardener, had trained a plant of the curious *Ficus barbatus*, a creeping plant, with leaves in pairs at right

angles with the stem. It presented the appearance of a huge green centipede crawling up the wall. It adheres as tenaciously as a Virginia creeper. Mr. Sutherland, I observed, made use of a kind of orchid stand, that was new to me, and may be to your readers. It was simply a section of a round stem or branch of a tree, with the bark on with a cavity chiselled out of the wood at one end.

Having been long convinced that most of our green and hot houses, in their general arrangements, are unnecessarily stiff and formal, I endeavored to introduce into one of my houses a more natural arrangement of the interior. Instead of the ordinary centre stage, I built up roughly two side walls of stone, and turned a rough arch over it, using hydraulic cement instead of lime mortar. The stones used were generally large and mossy. This formed a grotto or cave, in which I have a shallow tank, which is useful for watering the plants, and which is supplied from a pipe concealed in the roof of the grotto, and which falls or trickles from the stone. Against the outside of the side walls of this cave are piled up large stones, selected for thier shape and mossiness. In piling them up, care must be taken to leave as many interstices and offsetts for setting pots on, and planting ferns and trailing plants in as possible. After the stones are arranged to your mind, fill in all the crevices with leaf mould from the woods and plant every hole with rock and trailing plants, ferns, ivy, periwinkle, selaginella, cymbellaria, &c. If you have not room enough for plants in pots insert some roofing slates into the crevices, and they will form excellent shelves. The front of the house is arranged with stone, in the same way as the centre, only that on the top I have long strips of bark on edge, to conceal the rows of pots, which would have too stiff an appearance. Up the rafters and on wires crossing the house, I have trained passifloras, bignonias, *Cissus discolor*, Ipomeas, and a variety of climbers. To correspond with the rockwork, the paths should be flagged with common rough flag-stone, not laid in regular square courses, but irregularly, so as to fit into the nooks of the rockwork. I was but a little over a week getting my house arranged, and in a month you would have thought it as old as the old red sandstone formation.

In a recent article in the new English periodical "*Once a Week*," entitled "London Roof-Gardening," the writer suggests that dwellings should be built in squares or blocks of uniform height and with flat, metal or asphaltum roofs, and that flowers, shrubs, trailing plants, &c., should be planted in tubs or boxes. Accompanying the article is a very pretty illustration showing the appearance that such a roof-garden could be made to present with arcades of creeping vines, beds of flowers, and even neat, pretty green-houses. This is all very well in theory and on paper

but our London friends have a formidable difficulty to contend with, viz.: the smoke. To get rid of this, the writer suggests that the smoke consuming apparatus should be brought into universal use. In this country we are, in this respect, more favorably circumstanced, and I see no difficulty in carrying out such an arrangement. A friend of mine, who resides in the north-western part of Philadelphia, informs me that he occupies a house with a flat roof covered with asphaltum, and that they find it a most delightful place to sit, on a fine summer evening.

Many of our city residences, with but little or no ground to them, could be made much more attractive than they are by carrying out the above suggestion, and by having in front light ornamental iron verandahs covered with vines, or at least by enclosing a small space on the street with an iron railing, and planting a few shrubs and ivy, or Virginia creeper to grow up the front of the house. I have often met with these plants growing up the *sides* of houses, but do not recollect a single instance where they have been planted on the *front*.

No tribe of plants are more beautiful or better adapted to the purpose of room decoration than the different tribes of mosses, such as the Lycopods, Selaginellas, Hepaticas, Lichens, &c. If small specimens are planted in thumb pots, and these pots plunged in white sand and covered with a bell glass or shade, and occasionally watered, the mosses will keep in perfect health and at the same time present a very beautiful and interesting appearance.

Few persons are aware of the great variety of mosses that are found in this country, and if to these are added the many beautiful exotic varieties, a collection might be formed that for beauty and interest could not be surpassed.

The Waltonian Case or Plantarium has been found to be well adapted to their growth. At a recent meeting of the Pennsylvania Horticultural Society, a very beautiful rustic vase, decorated with the cones of the larch and filled with specimens of indigenous mosses, was very much admired. As, I believe, we have no name for such a collection, allow me to suggest that of the *Muscarium*, or *Mossary*.

But I fear I am occupying too much of your valuable space, and must conclude.

IMPROVEMENTS OF FRUITS.

BY "WILLIE."

PHILADELPHIA, December 12, 1859.

Dear Sir:—I wish I could impress particularly on the young readers of the *Monthly*, the importance of remembering that all our most valuable fruits and vegetables have originally been derived from coarse, weedy, and austere fruits; even the wheat, "the staff of life" has been improved from a coarse grass to

what it now is. The young, with a life-time before them, and with the knowledge and improvements that have been made before them, might do much for themselves and the world.

Great improvements have been made in the quality of fruits, of late, by new varieties; yet notwithstanding that, the extension in their culture has not progressed in proportion to the growth of our country and increase of our population; our markets are more scantily supplied than they were twenty years ago; but the right spirit is rising, and in the right place. The *Gardener's Monthly* tells us of a convention having lately been held in the City of Lancaster, in this State, with the view of improving and extending the culture of tree fruits and grapes, and they will go through with it, as they are a most skilful and enterprising class of Farmers, and their example will be followed by others until our nation will become the great fruit garden and orchard of the world.

WILLIE DELVER.

BOTANICAL NAMES.

BY J. S. L.

In your October number, Mr. B. F. Transou inquired what work on flowers, trees and plants you would recommend him to procure in order to acquire a knowledge of the botanical names of plants.

You reply that you do not know of any that would help him. This is discouraging. Permit me to recommend him to purchase "Wood's Class-Book of Botany," to be had at almost any well supplied book store in our cities; Henderson's, for instance, Arch Street, near Sixth, Philadelphia.

This work contains the elements of Botanical Science, as well as a Flora of the Northern, Middle and Western States. It includes many commonly known introduced and cultivated plants, and would answer his purpose better than Gray's Text-Book, or Flora.

[Mr. Transou's inquiry was for common names—English names—not Botanical.—ED.]

THE DIOSCOREA, OR THE CHINESE YAM.

The two following communications will be read with much interest. The first, from an intelligent amateur at Beverly, New Jersey; the other from our friend Oliver Taylor, Loudon, Va.

You do not often hear from Jersey, and as most folks (probably yourself among the number) seem to be impressed with the idea that "nothing good can come out of it," I should like to remove such an impression, to some extent, by stating that I have raised in eighteen months, roots of the *Dioscorea*, measuring from twenty-four to thirty-seven inches in length and weighing from two pounds to three pounds five ounces each.

About the 10th of May, 1858, I planted a hundred sections of roots, each about a $\frac{1}{4}$ of an inch in thickness, and $\frac{3}{8}$ in diameter, in a light sandy loam, the surface soil being scarcely a foot deep with a subsoil of pure sand, and in the beginning of last month took up a few roots as above described; the balance I intend to leave for another year. There had been no more care taken in preparing the ground than is customary in drilling potatoes; the subsoil having never been disturbed, and what seems most strange is that the whole thick portion of the root is produced in the subsoil; the upper part of the root, for twelve or fourteen inches in length being only for a $\frac{1}{4}$ inch to $\frac{3}{8}$ in diameter. Mine were in the ground all winter and suffered no injury from frost. Are you aware if they have done better in any other State?

G. R.

The *Dioscorea* I have now had four years, and for two months past we have been testing its value every way. I have attended three Fairs during the Fall, viz:—Maryland State Fair; Winchester Valley Fair, held at Winchester, and Loudon County Fair; and I had specimens cooked of it at each place, and gave, not less than one thousand persons a taste of it, and not one but pronounced it superior in quality to the best Irish potato.

J. D. Richardson of Buckeystown, exhibited roots at the State Fair, Maryland, grown from one root, which he said weighed less than one-half a pound, and which, he said, yielded this Fall, twelve pounds of roots. When cooked, it is just as good to eat cold as hot, as it does not get that peculiar taste common to the Irish Potato when cooked for several hours. In color, no fastidious cook could desire a handsomer dish, and in texture, those who have no teeth to eat it can easily "gum" it up.

In culture there is much to learn, and that so different from the usual routine of growing vegetables, that it is difficult to get the new beginner in the right way. Our experience leads us to prefer the seed tubers which grow profusely on the vines for planting, and put in the ground just as soon as possible in the Spring, though the upper part of the roots will grow if cut in very small pieces, yet they sometimes fail, no doubt, from being cut and placed in a cold, damp soil where they rot before they have heat enough to start them.

They seem to grow well in all kinds of soil but should only be grown in such as will allow them to swell easily, or the roots will be much crooked. One foot apart each way seems to give them room enough. They should not be dug until two season's growth if seed tubers are planted, or small pieces of the roots, as the yield will not justify digging so deep the first year. They stand any degree of cold under ground, and when left in the ground all winter, of

course they start stronger and earlier in the Spring.

Fresh manure does not suit them, though well rotted manure or ashes, well mixed with the soil is not objectionable. The yield with us is about one pound per square foot, or twenty tons per acre.

The great trouble of growing this vegetable is the digging the crop; though this would not be objected to by any good cultivator, as the moving of the soil so deep would pay for the labor in the advanced value of the ground thus dug up. The elegance of its quality, the small space it requires, and the length of time in use, will, no doubt, soon place it in every well furnished garden, and when the steam plow stirs our tenacious clays deep enough, and proper plows are constructed to raise them from their downward course, they will, no doubt, drive the Irish potato entirely out of use.

We intend trying various experiments on them next year, such as planting in raised beds, mulching with various substances, and should we find advantage from any such plans, will make it public.

As ever, OLIVER TAYLOR.

A SIMPLE FRUIT GATHERER.

BY J. S. L.

I have had a simple and quite an efficient one in use for years, for gathering Washington Plums from a height of twenty feet or more, and have found it to answer admirably. It is merely a section of old tin spout pipe, 3, 5, 6 or 8 inches long, as may be deemed proper, depending upon the quantity to be gathered at each effort. Attach this piece of tin pipe to the end of a pole, or close the bottom of the section with a plug of wood and insert the end of the pole in a hole in this plug and your instrument is complete.

One advantage this simple apparatus possess over any other I have seen is that the fruit can be very easily detached from the branch by the cutting edge of the tin; no brushing or jerking being required; and the delicate plum or other fruit drops gently into the cup without a bruise.



So simple a contrivance scarcely needs an illustration, and though seemingly of trifling importance, may be found by some of your readers, of much value, should you deem a description of it worthy a place in the *Monthly*. J. S. L.

CULTURE OF THE CRANBERRY.

BY "CRANBERRY," HANOVER FURNACE, N. J.

The great consumption of, and consequent demand for the Cranberry, has induced many persons to turn their attention to its cultivation.

The high price the berries command in the market, varying from three and a half to five dollars per

bushel. Their great productiveness and certain yield and the comparatively easy cultivation of the plant, render them objects of no mean importance, supplying, as they do, in a measure, the void created by the falling-off of the fruit crop; which, year by year, dwindles and becomes "beautifully less."

My attention was drawn particularly to the cranberry (*Oryzococcus macrocarpus*), during a recent excursion into Burlington County, New Jersey, where I was induced to visit a number of patches; some large, but most of them small, where they have been under cultivation for a few years, and in every instance I found their owners so well satisfied with the results obtained, that they have determined to enter into the cultivation the coming season to a much greater extent.

In the region of the Pines there seem to be very many natural bogs in which this berry is found growing in a wild state, and in some places so thickly that they have been known to yield at the rate of two hundred and fifty bushels to the acre. These bogs producing so heavily are most of them leased on improving leases; but I saw many hundreds of acres which required but a little draining, and the necessary planting to make them very productive.

One young man, whom I found at work on a ditch by which he intended to drain an acre or two, told me that he had sold his crop of wild berries for \$345 cash, and that when he once had his bit of a bog in good condition, it would, with scarcely anything more than the labor of picking his crop, yield him more per annum than a good hundred acre farm.

With the taste and qualities of this berry we are all sufficiently well acquainted, but at their present prices they are beyond the reach of any save those who have their purses tolerably well filled. But with the increase of the cultivation, they must in a few years be so very much reduced in price as to be within the means of all classes.

The manner of cultivation seemed to be very rough, and the vines set out were in all cases the wild growth of neighbouring bogs: proving, at least, that they are indigenous, and that if improved sorts were planted, and common attention paid, with a soil so suitable, immense crops might be raised.

I call attention to the Cranberry, and the inducements it holds out to young men of industrious habits and small means, from the fact that so many are induced to emigrate to the West and South at a very considerable expense, and often precarious prospects, when they might find profitable employment so much nearer home, and at the same time, enjoy the peculiar benefits and privileges of an older settled community.

CRANBERRY.

[With Cranberries "dearer than ever" this season, our friend's communication is well timed, and his

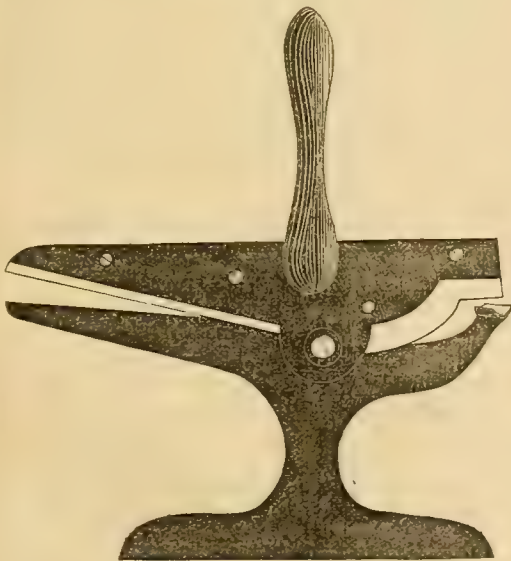
promised continuation of the subject, in all its practical details, will be very acceptable. Unlike most farm crops, this one needs no manure, and will grow where little else will, and with a moderate amount of labor, and it is not surprising that general attention should be growing vigorously towards it.—Ed.]

MACHINE FOR ROOT GRAFTING.

BY B. L. RYDER, WEST FRANKLIN NURSERIES,
LOUDBON, FRANKLIN COUNTY, PA.

Agreeably to your inquiries and requests, I send you to-day a model of my grafting shears.

The long shear blade is intended to trim the side roots, the other for cutting the roots, &c. to the proper length, and the knife which cuts on the concave bed, for splitting, which is done much better than can be done by hand, always making a smooth, clean split, no difference how twisted or crooked the stock is. Last season I had an attachment for pointing or cutting the wedge on the graft, or sloping the stock and scion in splice grafting, but have adopted this plan as better, (intending to make the other part in a separate machine shortly.) The advantages of this implement will be obvious to every one experienced in root grafting. It being fastened on a bench or table, it operates very fast and does its work in a very superior manner, and can be worked by any novice.



I do not claim to be the inventor of the original idea, this being a modification of the grafting shears long in use, but I claim it as a decided improvement.

I am now prepared to furnish the machines to all desiring them, at short notice. The machine is made

wholly of iron, and will be of the best material and workmanship.

P. S.—The blade is cast steel and can be taken off and ground, being fastened with screws on the hand piece.

[Anxious to present real improvements to our readers, we give Mr. Ryder the benefit of the free advertisement his excellent machine so justly merits. The model sent us is of wood, except the blade, which is of shear steel. The base has a flange, not shown in the engraving, by which it is screwed to a bench.—Ed.]

COAL TAR FOR THE LOCUST BORER.

BY E. K., BRIGHTON, N. Y.

I have tried the use of Coal Tar on the Locust, in order to stop the Locust Borer, and find it works well. I used as follows:—First, open the holes at the mouth, then fill with warm Coal Tar; the pest will soon make his appearance and fall to the ground. I have found a very good remedy, though not always effectual, to destroy the knot on the plum—I first cut out the spot, then apply common tar. I have examined the black knot closely for several years, and endorse, in the main, the remarks of Hortus, (Galesburg, Illinois.)

E. K.

A GRAPE CHAPTER.

Our Correspondents have got so interested in grapes that we have to limit the space their favors would otherwise occupy. In condensing their communications, we have endeavored to retain all their ideas so far as practicable. First, we have a letter from Mr. E. Hopkins, of Trumansburg, N. Y., on—

The Delaware Grape. Mr. H. spent some weeks on the Delaware, last August, and found a vine in the garden of a friend; curiosity being excited, he spent several weeks, and found great quantities in other places, many miles apart, but on careful inquiry, found in every possible trace that they all originally came from the Prevost vines. As to our remarks on the varied forms of bunch and berry, he says he has seen them all on the same vine. Mr. Prevost, he says, was a native of Switzerland and an officer in the French army at the time of the French Revolution, and at its termination, barely had time to escape with his life to this country, rendering it improbable that he brought grapes with him. One of Mr. P.'s grandsons thinks his father received it from a Swiss gardener of Mr. Powell, of Philadelphia, who subsequently worked for Mr. Prevost.

On the same grape, J. L. T., Lambertville, N. J., writes,—“Mr. A. G. M. Prevost thinks his grandfather obtained this amongst others received from Hare Powell of Philadelphia. He further said that

they called it the Powell grape." Mr. T. also says that the fruit is very variable on neglected vines. Some vines have the fruit just ripening when the others are gone. He thinks the Delaware, uncared for, tends backwards to wildness to a remarkable degree.

Mr. S. Miller believes the Delaware a foreign grape, and can detect no signs of a native odor.

"Orchis" wonders why the small size and high price of the Delaware should make it a worthless grape, and the dealers in it rogues and humbugs, as some journals intimate. He thinks he would sooner eat a Seckel Pear than a Pound pear, notwithstanding its small size, and that the demand for any article of trade regulates its price.

Synonyms of Grapes. "Orchis" writes,—“It has been clearly ascertained that the Canby's August came from Wilmington, Delaware; the Baldwin sprang up in a yard in Westchester, Pa.; the York Madeira, according to W. C. Waring, (most excellent authority by the way,) is a native of York county, Pa., and the Hyde's Eliza, I think from Troy, N. Y. Now, that they are all natives of different localities, and notwithstanding this, so particularly alike as to be almost instinctively taken for one and the same grape, what inference would this peculiarity lead us to?—simply this: that among our grapes, as is the case with plants of all kinds, there are true botanical varieties, and these varieties perpetuate their kind, no matter where the seed may germinate. Upon examining the wood, foliage and fruit, as well as the shape of the inflorescence of the foregoing kinds, we find them minutely alike, and all showing the general characteristics of their parent or species—viz: *Vitis Labrusca*, L.”

Mr. Downing says, the Hyde's Eliza has rather larger bunches and berries than York Madeira.

The Venango Grape. H. writes,—“The County of Venango, Pennsylvania, has long been noted for its paternity of good wild grapes—among them the “Venango,” erroneously “Minor's Seedling.” It originated on or near the grounds of the old French Fort at Franklin, in Venango county, at the junction of French Creek with the Allegheny River, and was formerly supposed to have originated from seed of foreign grapes introduced by the French. I have had the Venango for ten years, and do not consider it worthy of dissemination.

The Franklin Grape. H. also writes that it was found in the vicinity of the Venango, and removed to Meadville, Crawford county, and freely disseminated by the present liberal owner. He says, Venango, Clarion, Mercer, and Lawrence counties, Penna., abound with good wild grapes, many of which are being cultivated and called Franklin by the inhabitants. The Franklin we find to have remarkably

large stipules on the young shoots, and many prove to belong to a distinct species from any yet described.

Grape Experiments. Mr. O. T. Hobbs, Randolph, Pa., writes that he has been for some time experimenting with seedling grapes, and finds that in a hundred seedlings from the Franklin, *all*, with one single exception, are different from the parent. He cannot identify the species to which the Franklin belongs, but will send specimens of the leaves to any one interested.

Foreign Grapes. Friend John, our spirit liketh not the tenor of thy communication. We advise thee, as thou art a man of peace, to lay aside the vitriol bottle, which may burn thy “esteemed friends,” and turn their anger upon thee. Use good, cheerful and pleasant black ink in thy epistles, and for thy pen employ the directorship of a loving disposition. If thou “care not to know whether the Delaware be a foreigner or a native, so long as it is hardy and good to eat;” so well and good. If thou carest not to know whether the world is round so long as thee can go whither thee wishes about it. Or whether the moon is inhabited, so that she gives thee her pale light, we shall not quarrel with thee; then why wilt thou quarrel with others for the same cause?

It is the business of science, friend John, to *collect facts*. The *cui bono*, or “what good” comes afterwards, just as in business, Friend John, thee gets thy money first, before thee plans out how thee shall spend it. So in gardening, we do not know what good a fact may be till we get it. If we know it to have some relation to the subject we look after it.

The Hansterello Grape. A correspondent recently called for its history. The following from our friend Col. R. Carr, formerly of the Bartram Botanic Gardens, settles that point.

“About the year 1820, I received from Zerbst, in Prussia, a box of grape vines, containing twenty-five species of European grapes, which my friend Mr. Kalisky, (who procured them for me) believed would thrive in this climate. They were carefully cultivated, and many of them produced large and delicious grapes, for two or three seasons, but the severity and changeable weather of our winters proved too severe for them, and most of them perished in a few years. One of them bore fruit very nearly resembling the Bland grape in size, color and flavor. Another of them, the *Hansterello*, was equal to the Black Hamburg, and more hardy. I believe there is one of this species now in the garden of the late James Laws.”

Labe Grape. Mr. S. Miller says our figure of this is not more than half the size it frequently grows, and that the specimen sent was merely for a taste. It is a good fault to underrate a fruit in exciting times.

Corrections. In conclusion, we insert the following from Mr. A. Thomson:

"In speaking of the quality and appearance of the Delaware, I said:—'which from its surpassing excellence, would anywhere, or under any circumstances, at once attract the attention of the merest tyro in horticulture, and captivate the most uncultivated taste.' The italicized words were omitted by the compositor. In the same paragraph I spoke of its having passed the ordeal of "pomological societies and committees," instead of "varieties," as the type make me say. In the last paragraph quoted 'much interest' was written *such* interest. Several typographical errors, as "Truminer" for "Traminer," "remains" for "remain," &c., will be obvious to the reader."

THE SUSQUEHANNA PEACH.

BY DR. W. D. BRINCKLE.

At page 27 of the number just received, I perceive an inquiry is made in regard to the Griffith and Susquehanna Peach.

They are identical. The original tree, now dead, stood in the garden of the late Mr. Griffith, at Harrisburg, and was placed there by his little son who found it growing on the banks of the Susquehanna, pulled it up and planted it in his father's garden. The name Susquehanna was given to it several years ago by myself.

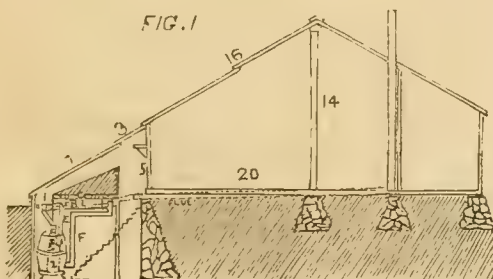
[Dr. B. has our best thanks for the information which Mr. Miller has also given us. We have letters to the same effect from four other friends, who will please accept our acknowledgment.—ED.]

HEATING BY HOT WATER.

BY A. B. C.

A correspondent sends us a plan of heating by hot water flowing through a wooden tank, heated by a barrel boiler.

Fig. 1 is a section of the elevation.



The figures 7, 3 and 16, are the measure in feet of the several surfaces of the roof; 20 the number of feet wide, and that section, and 14, the depth of the upright pillar.

Of the heating part of the arrangement,
A. Is barrel steamer, with stove extending through it.
B. Tank, 5 feet wide, and 32 feet long, 6 inches deep.

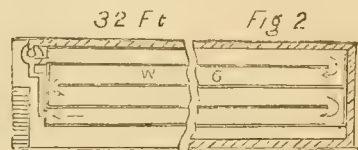
C. Earth, &c., above tank.

D. End of brick flue for smoke, extending along the front across the back, and returning half way to middle of front of graper, and then across it to the chimney.

E. Warm water pipe.

F. Cold return pipe.

Fig. 2 is the ground plan of the tank, 6 inches deep;



the arrows show the course of the circulating water.

FIG. 3

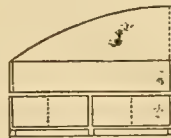


Fig. 3 is a vertical section of the tank, and earth bed, on an enlarged scale.

In connection with the above, our correspondent sends the following queries, to which we annex notes in reply:

1. How much rise should a boiler or furnace have before reaching the flue in order to produce sufficient momentum to create a motion in the horizontal pipe of upwards of 70 feet before reaching the upright chimney? (1)

2. Have wooden tanks, heated by circulating water, been used in this country, and are they admissible when covered with loose boards and brick rubbish, or should they be tightly covered with boards or slate, with openings by means of tubes, etc. to regulate the heat and moisture? (2)

3. Are not pit sash at 20° inclination sufficiently high for all practical purposes? (3)

4. Should the tanks be more than six inches deep, and how great depth of soil should cover them for growth of tomato plants, cabbage, etc., etc.? (4)

5. Do you think the plan of heating as proposed, and the tank arrangement promises to be successful and an economical method? (5)

[(1) None of our flues have any rise; their draught is perfect; we think the popular idea of the necessity of a rise is fallacious.

(2) We have a tank made of white pine boards, thirty feet in length, connected by four feet of one-inch lead pipe to a cast iron boiler holding two quarts of water. The tank is four inches deep, but only two inches depth of water is kept in the tank, which is

covered with half-inch weatherboarding. With a slight fire sufficient to keep the house (which is very warmly built) at 60° when the outside temperature is 30°, the water in the flow end of the tank is 112°, and 72° at the return after travelling sixty feet. Sand four inches deep is placed directly on the weatherboarding, and a regular temperature of 70° maintained, in which most cuttings easily root in three weeks. The whole contrivance cost less than twenty dollars, and we would not be without it for two hundred dollars. Slate would have been better than weatherboard to cover, and three-inch pipe better than one-inch for the flow and return; a cast-iron water pipe would do, the elbow in the fire. The size of the boiler, we believe to be of little importance in tank heating.

(3) For early forcing, the steeper the pitch, the better is it found in practice; 40° is not too much.

(4) Two inches of water is enough, and the tank need be but little deeper. The more water to be heated, the lower will be the temperature attained. Four inches of rich soil is plenty on a tank for your purpose.

(5) We have before answered in the affirmative, as far as the tank is concerned, but think our own plan of a small boiler, costing about five dollars, or even a water pipe preferable to the barrel boiler, though we have not seen the latter tried.]

CELERY DISEASE.

BY N. H. R., SPRINGFIELD, ILL.

Our Celery crops here are much injured every season by great numbers of very small flies, which attack the young leaves of the plants, causing them to wilt and die. I think they are the same which attack the Japan Sophora, Bladder Senna, etc. They remain about the celery until we have a sharp frost, preventing its growth. I do not notice that they do any other injury than to the leaves. They are very small and have the appearance of gnats.

We have another insect (it may be the same) which lays eggs in the young shoots of the celery, which hatch into small white worms, and which descend to the heart of the plant and greatly injure it.

I have tried various means of driving off the insect first mentioned, but without success. I do not think any odor will affect them. If you will inform us in the *Monthly* how to get rid of them, you will oblige all the Celery growers here.

[The last described insect is the common Celery Fly; they usually work in the night. The only remedy is to trap them. Long strips of canvass, coated with molasses, and stretched along the rows, would, we think, entice and rid you of great numbers. —ED.]

TWO CROPS OF GRAPES IN ONE HOUSE. I. R. wishes to know whether by keeping half his vines out of the house, forcing the balance, and some months after bringing in the former, whether it would be successful? We think not.

MR. THOMAS MEEHANI My Dear Sir.—Can you inform the readers of the *Monthly* what result followed Dr. Uhler's experiments with aloes upon the Plum Curculio? Also, whether Mr. Bright's book, —see pp 106,—is yet issued, and if so, the price and publisher. I want a copy. Will Mr. Bright favor your readers with an article on Saltpetre as a manure, when to use, quantity, what it should cost to enable one to use it profitably, &c., &c.; I have never seen it used and would be glad of some information on the subject, though Mr. Bright seems to think, pp 66, that it needs no explanation.—D. W. B., St. Catharine's, C. W., Jan. 4, 1859.

[Will our kind correspondents please reply.—ED.]

VINE BORDERS.—D. F. Kinney has a cold grapery facing south, a "lean-to" structure. If another building were erected north, making a sort of span roof; would it do to cover with boards instead of glass? The present building is 14 feet wide, the proposed addition 8 feet; would it be warm enough with the present back taken out?

This is how we understand the question. It would be warm, but not light enough; we should use glass.

Should the vine border be made *only* outside the house, or also under it? We prefer the last.

VITRIOL AND FENCE POSTS.—Of the many methods of preserving fence posts from decay, none is perhaps more simple and cheap than the one of soaking them in blue vitriol.—Ex.

COOKING APPLE-PIE MELON—Cut and pare as you would pumpkins. Stew until thoroughly done, and if there is too much water in them, turn them into something to drain, and when dry enough use them just as you would stewed apples, adding sharp vinegar or tartaric acid to give the tart.

The Apple-Pie Melon is one of the most valuable acquisitions to the list of vegetables in the west, that has been made for a long time, as they grow finely and produce wonderfully. I planted fifty seeds—thirty came up, and the frost on the 4th June left me fifteen vines. About one hundred melons set, and about forty of them were cut short by the 1st Sept. My largest one weighed fifty pounds, and one of my neighbors to whom I gave seed, raised one weighing 53 pounds. They are made valuable here because fruit is scarce—where fruit is plenty they must be of less value. SAML. M. DYER, East Des Moines Iowa, in *Country Gentleman*.

The Gardener's Monthly.

PHILADELPHIA, FEBRUARY 1, 1860.

☞ All Communications for the Editor should be addressed, "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

HOW HORTICULTURE "PAYS."

It is gratifying to every lover of pure and rational pleasures to note the increased importance given to horticultural pursuits, and the increased influence obtained by horticulture and horticulturists in public affairs.

Poets have sung of the pleasures of a garden, and philosophers have taught the actual necessity of a love of natural beauty in the mind, in order to insure a healthy development of the mental faculties.

Gardens and flowers are inseparably connected with virtue and morality, and happiness flows from them, as from a natural fountain and source. Not by any means that all horticulturists are paragons of excellence, for the serpent will creep into the happiest paradise; but that the pursuit forms the most natural and most protective hedge against the intrusions of misery and vice that exists amongst men.

The world acknowledges all this, but it is one thing to believe and another to practise, and yet it is the increasing practice of horticulture we see around us which inspires our present theme.

We recently passed a beautiful little school-house in Montgomery County, Pennsylvania, built after a design of great taste and beauty. The grounds about it were of small extent, but the beautiful lawn, kept neatly mowed; the flowering shrubs, and handsome trees, and delicate vines trained on graceful trellises, showed conclusively that if the directors of that school cared for these lilies of the field, how much more cared they for the human flowers within. And then the neat, clean and happy children, in themselves, exhibited the influence this horticultural taste was exerting over them, and we only wished there could be competition in *public* schools, as in other branches of business. "We know," thought we, "to which school our own little treasures should be sent."

Coming nearer home, passing, in fact, but a few miles from our own door, we came to a beautiful country church, recently built in a pleasing spot; and there, too, were the pulpit and the pruning knife linked hand to hand in the endeavor to make mankind the happier for the union. For once, thought we, that marriage is a happy one, and fancied we saw written over the portals of its mansion, "Peace be with all who enter here." A beautiful winding walk

led to the church door, and branch paths and bright evergreens and rich clumps of choice shrubs invited the feet of the stranger about them, it is to be hoped, to a better purpose than the soft grass did to the feet of Bunyan's Pilgrim. Whatever may be said for or against the monks of the middle ages, they at least did wonders for gardening, and labored immensely to influence the masses in its behalf; and unquestionably, one of the great secrets of the hold these institutions had at one time of the world's history, on the popular mind, was the recognition of the principle that the beauties of nature and art had an inseparable connection with the theological principles they professed.

Proceeding from the pursuit of the Philosopher the school and the pulpit, to the rostrum, we find horticulture still leaving its footprints on the sand of current events. Lectures on horticulture are becoming fashionable in various parts of the country, adding a warmth and a brilliancy to the happy sunshine of life in large cities, bringing out large audiences to enjoy its loveliness, and laying in rich stores of golden grain to gladden the hearts of the lecturers.

We see that at New Haven, Marshall P. Wilder, Dr. Grant, Emerson the arboriculturist, Barry, L. F. Allen, Pardee, and Johnson, all eminent horticulturists, are engaged to lecture this month, (Feb.) and while we are now writing, could we be amongst them "who have gone down into Egypt," we should probably find Drs. Warder and Kennicott, Hon. M. L. Dunlap and others, enlightening the natives of Tamaroa on horticultural pursuits.

And the public press,—that great mirror of popular sentiment, not only reflects the horticultural ideas of public lectures to the fullest extent; but is beginning to take in their importance in an every day sense. So great is the passion for horticulture, and the benefits the training of the horticulturist is capable of conferring on practical science generally, that the Cincinnati *Scientific Artisan*, one of the best papers of its class in the country, will in future have a regular horticultural column.

After all, horticulture, like all other worldly occupations, has its vices, which, when indulged in, materially detracts from its real pleasures. Not one of the least of these is the lowering of the whole pursuit to a sort of commercial speculation, in which, "beware of humbugs," or "will it pay?" compose the chief stock in trade. So great is the din at times created, that an outsider would certainly believe that market gardeners and nurserymen constituted the whole horticultural community. But horticulture, as one of the fine arts, has no more to do with profit than a piano or stylish carriage. It is a luxury to be indulged in; a mental, moral, and bodily recreation, to be pursued at a loss of *cash*, to the profit of *the man*.

He who follows it for a living is to be pitied. Speaking of a leading nurseryman, said a lady friend to us recently, "I felt sorry for Mr.—, when at his place, though he wants, I know, to love his flowers, I felt that he could not feel that passionate admiration for them that I did. He would part with them for money, and I would not. That made the difference." We envied that lady's feelings, even ourselves—and a few moments after, when a noted merchant said to us, "I have grown out of conceit of raising my own flowers and vegetables, I find I can buy them cheaper in the market;" we did not envy him at all.

To obtain pleasure from a garden, calculations of profit must not enter; keep within your means, of course, and do not spend a dollar on what can be as well accomplished for a less sum. So shall the pure love of horticulture spread, and the horticulturists become a power for good in the state, and an honor and credit to the humanity that claims him.

LECTURES ON RURAL AFFAIRS.

At New Haven, from February the First to February the Twenty-fifth. The following is the part of the programme in which our readers will be the most interested.

SECOND WEEK—POMOLOGY, &c.

PEAR CULTURE..... HON. MARSHALL P. WILDER.

American Pomology—the best method of promoting it; with practical suggestions on the cultivation of the pear.

GRAPES..... DR. C. W. GRANT.

Lecture 1. Preparation of the soil, and propagation of the vine. *Lec. 2.* Culture of native varieties, with account of different varieties and their qualities. *Lec. 3.* Foreign varieties; culture and treatment.

BERRIES..... R. G. PARDEE, ESQ.

Lecture 1. Strawberries, Raspberries and Blackberries—soil, cultivation, varieties. *Lec. 2.* Currants, Gooseberries, Cranberries and Whortleberries—soil, cultivation, varieties.

FRUIT TREES..... P. BARRY, ESQ.

Lecture 1. Propagation and treatment of Fruit Trees in the Nursery. *Lec. 2.* Transplanting and management of trees in the orchard and garden.

FRUITS..... LEWIS F. ALLEN, ESQ.

Lectures 1 & 2. The Apple. *Lec. 3.* Uses of Fruits economically considered; profits as farm crops; their consumption as food for man; as food for stock; value for exportation.

ARBORICULTURE..... GEO. B. EMERSON, ESQ.

Lecture 1. Character of various Forest Trees, as found growing in the forests of Europe and America. Value for various purposes. Forest culture. *Lec. 2.* Shade and Ornamental Trees; modes of cultivation.

AGRICULTURAL CHEMISTRY, continued, PROF. S. W. JOHNSON.

Lecture 5. The soil: its chemical and physical character. *Lec. 6.* The mechanical improvement of the soil by tillage, fallow and amendments. *Lec. 7.* The Chemical and Mechanical improvement of the soil by manures. *Lec. 8.* The conversion of Vegetable into Animal produce. The Chemistry and Physiology of Feeding.

During the first week, the following Sciences will be lectured on in their application to husbandry.—

CHEMISTRY..... PROF. S. W. JOHNSON.

METEOROLOGY..... PROF. B. SILLIMAN, JR.

ENTOMOLOGY..... DR. ASA FITCH.

VEGETABLE PHYSIOLOGY.... DANIEL C. EATON.

We hope our friends will have a "good time."

GREENHOUSE AND VINERY

OF STEPHEN OLIVER, JR., ESQ., LYNN, MASSACHUSETTS.

(See Frontispiece.)

We have frequently heard Mr. Oliver's houses spoken of as combining utility with beauty to a remarkable degree, and at our request, he has furnished us with a photograph, (from which our illustration has been copied) and also a ground plan and description of the internal arrangements. It has often struck us as being strange that persons who have the means do not expend a trifle more in ornamenting the exterior of their plant houses so as to prevent their being, as is too frequently the case, a positive blemish in the appearance of their grounds. We think our readers will agree with us that Mr. O. has obtained a very good effect by the judicious expenditure of but a small additional sum. We annex a description of the ground plan:

A. Slatted walks, from underneath which heat arises from smoke flues.

B. Flower stands.

C. Chimney, rising directly under cupola; passing through and from out of which smoke passes through small copper pipes placed all around the top of same.

D. Coal bins, in basement.

E. Boiler.

F. Smoke Flue.

G. Water Cistern; water conducted from roof.

H. Small Cistern, opening into room above for watering plants.

I. Hot water pipes from Boiler.

J. Water tank to feed Boiler.

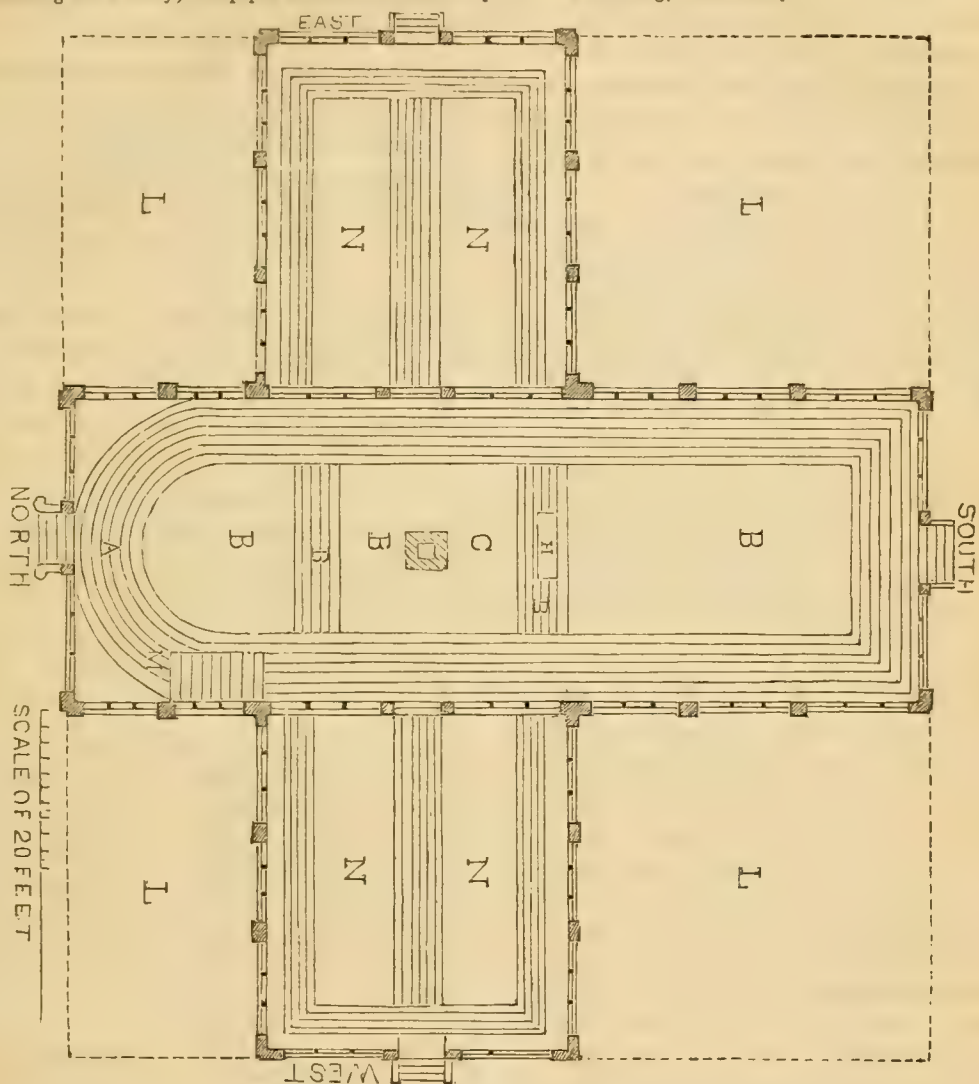
K. Windows for lighting Basement and taking in coal.

L. Grape Borders.

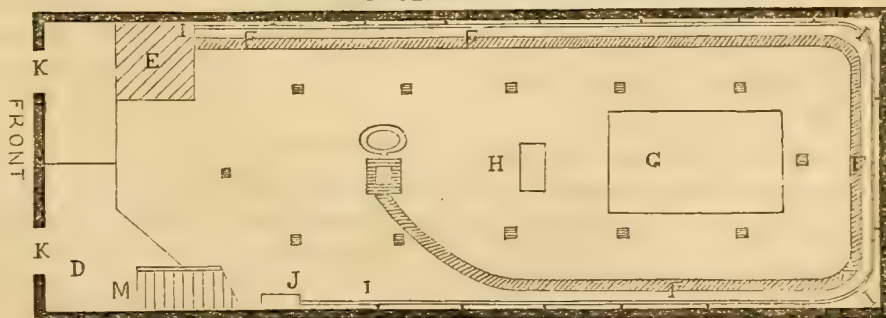
M. Cellar way. Trap door.

N. Semi-circular trellises for training fruit trees.

Centre and main body of house used for a Vinery and Flower house, heated by hot water pipes and flues. East wing for Vinery, has pipes and can be used at option. West wing, cold Vinery.



BASEMENT



Questions and Answers.

WHITEWASHING THE STEMS OF FRUIT TREES—C., Delaware County, Pa.—Mr. Editor, can you not find a corner for a word or two, condemnatory of the barbarous practice of whitewashing the trunks of fruit trees, not only rendering them unsightly, but causing much injury by closing the pores of the bark. It prevails extensively in this section.

[It is not injurious, rather beneficial, killing moss and insects, and prevents sun-scorching in severe winters. The outer bark has lost its vitality, and has no pores to get injured. When the tree grows, the trunk swells, and the old bark cracks, through white-wash and all, and no injury results. As to the unsightliness of it, we have not a word to say in its favor.—ED.]

DIOSCOREA—R. P. R., Quincy, Ill.—This is also called the Chinese Yam, and was introduced into France from Japan, eight years ago. It was introduced here five years since, and so very much more claimed for it than the result has confirmed, that its real merits are looked on with suspicion. It is an excellent vegetable, and will, no doubt, become a standard garden crop.

NATIVE BLACKBERRIES.—A friend from Cynthiana, Ky., writes describing four different kinds of Blackberries growing wild there. The Blackberry varies very much; we have in our collection, dried specimens of over 50 forms, collected within an area of three hundred miles in width. We have no doubt, however, but that varieties equalling and perhaps excelling, in some respects, the New Rochelle, might be found by perseverance, and we hope what we have said will not dampen the ardor of our correspondent in his observations.

ROSE MILDEW—Tyro, Lynchburg, Va., writes of a white creeping fungus, growing up out of the soil in his rose pots, and covering the whole surface of the soil very rapidly. It appears amongst the roses in his greenhouse, and he fears it will attack the roses themselves. Almost all this kind of fungi spring from decayed vegetable matter in the soil, and are readily destroyed by lime water. But without knowing exactly the kind our correspondent complains of, we cannot advise him confidently.

HONOLULU NECTARINE SQUASH. From M. T. Briggs, West Macedon, N. Y. Specimens of the dried fruit. We are usually suspicious of "rare squashes," finding them generally to possess a "distinction" without a "difference." This, we are bound to say, however, is good—decidedly so, and we are

confirmed in the opinion by a beloved voice over our shoulder, exclaiming as we write—"O do get some seed of it to plant for ourselves." Is it more than an improved variety of Apple-pie Melon?

WATER FROM ARTESIAN WELLS—W. C. T. Washington, Miss.—"My Artesian Well is 400 feet deep, and brings to the surface 105 gallons per minute, at a temperature of 68°. It contains a large amount of iron and potass and a little acid. Will it injure my plants in the greenhouse I propose to erect?"

[We think you will find no injury unless the water is largely impregnated with these substances.]

FILLMORE STRAWBERRY—W. C. T., Washington, Miss.—We know of *our own experience*, only what we have already stated in our paper, and cannot advise any one either to purchase or not to purchase this, or anything noticed by us. We endeavor to collect all the information we can on any subject, after which, our duties as a journalist ceases.

EUPHORBIA JACQUINÆFLORA—A Subscriber.—"Can you give me any information about growing the Euphorbia Jacquinæflora? The leaves have all fallen off in the stove."

[It requires a rich soil, warm atmosphere, (75°) and plenty of drainage in the pots; in the last of which items we fear you have been deficient.]

INDELIBLE WRITING INK FOR ZINC LABELS. We have received from Mr. White, of Buffalo, a bottle of Mathews' writing ink, and samples of zinc labels marked as being in use from 1855 to 1859. This material has been employed for the past fifteen years in some of the principal horticultural establishments, but has never become popular—the oxidization of the zinc obliterating the writing. These specimens indicate an improvement, and we think it well worthy extensive trial.

CORRECTION. Dear Sir—On seeing the plan for a garden I sent you, in December number, I notice the figures marked in it as its dimensions belong to another plan. Its proper size should have been 200 x 240, or double that marked. Will you please correct this in a future number, and oblige, Yours truly,

J. C. SIDNEY.

BRICK HOT WATER TANKS. W. H. B., Cleveland, Ohio.—We do not think brick tanks, lined with any kind of cement, can be made to resist hot water for any length of time successfully. Wooden tanks, made by a carpenter who has a good eye; the "tongue-uing" made by employing hoop iron for the tongue, and then braced with iron seldom leaks, and if white-

washed before using, with a composition of butter-milk and lime, will last a long time.

A SUBSCRIBER. Forest Home, Ky.—Will find in another part of our paper an answer to his inquiry in regard to the vine treatise.

DIANTHUS HEDDEWIGII. J. F. D., Providence, R. I.—In the November number, we notice an article upon the "Dianthus Chinensis Heddewigii," copied from the *Gardener's Chronicle*. Could we procure the seeds here, and if so, what will they cost, a small quantity?

[Most of the principal seedsmen who import annually from Europe, and advertise in our columns, will doubtless have it for sale in the Spring. We have recently seen colored figures in *Neubert's Deutsches Magazin*, which confirm the beautiful character the *Chronicle* gave of them.]

QUOTE ACCURATELY.—We had occasion recently to complain that when we suggested that "similar varieties" to a certain grape might be found growing wild, a contemporary should say—unintentionally we are sure—that we said the grape itself.

Another writer, equally unintentionally we know, said that, in writing of the grape from Cleveland, we said "all the members of the horticultural society thought as we did," when we only said "all of them who tasted it." A difference equal to a dozen or two against several hundred.

In the last *Hovey's Magazine* we are made to say that the Delaware grape "is abundant in Delaware," when we only said "varieties of *Isabella* abound in Delaware."

Will our friends please be more accurate?

This, by the way, we think one of the best numbers of *Hovey's Magazine* we have received for a long time, and are pleased to find the oldest horticultural magazine in the country sustaining itself so usefully.

Books, Catalogues, &c.

The *Horticulturist* makes its New Year's bow under the direction of Mr. Peter B. Mead, of Brooklyn; a distinguished horticulturist. Mr. J. Jay Smith, under whose management it has been so popular the past four years, retiring.

The *Homestead*, of Hartford, and the *Valley Farmer*, of St. Louis, have, like ourselves, severally put on a new dress, fully aware that if "good manners" and an "engaging appearance" "make the man," they have no meaner influence in making a successful periodical.

Dr. Cloud's *Cotton Planter* has also been enlarged, and raised to a \$2 magazine.

The *Country Gentleman* has also dressed up a little, presenting a portrait of Mr. A. J. Downing on its horticultural breastplate.

Though these are all properly agricultural periodicals, they usually contain horticultural articles of the highest excellence.

Afleck's Southern Rural Almanac, published at Brenham, Texas, we hope will find a reader in every one interested in Southern horticulture. To say it is an excellent production is but simple justice.

DESCRIPTIVE CATALOGUES.

To those anxious to know the rapid progress horticulture is making on the American continent, the catalogues of the nurserymen are very instructive. In a very few months after a new fruit, flower or vegetable has been announced as new in Europe, we find it spread over many of the States of our own country. The following firms have published catalogues, copies of which are now on our table.

T. E. Cook & Sons, Bendersville, Pa.
J. S. Cook, Walnut Hill, Ohio.
James McGowan, Lynchburg, Va.
R. W. Hunt & Co., Galesburg, Ill.
Haines & Hacker, Cheltenham, Philada.
J. A. Mendenhall & Bro., Richmond, Ind.
Nealley Bros. & Bock, Burlington, Iowa.
Fleming & Nelson, Augusta, Ga.
Van Pelt & Heyer, Dubuque, Iowa.
David J. Griscom, Woodbury, N. J.
J. McLaen, Roadstown, N. J.
Chester Clark, Covington, Ind.
S. Thompson, Suscol Ferry, California.
Hooker, Farley & Co., Rochester, N. Y.
C. C. Langdon, Mobile, Ala.
Gibson & Sons, Mullica Hill, N. J.

SEEDS.

J. M. Thorburn & Co. Tree and shrubs, containing many rare things not often to be obtained. Also, from the same, *Vegetable and Agricultural Seed List*.

WHOLESALE LISTS.

B. F. Transou, Wellwood, Tenn.
L. C. Lishy, Nashville, Tenn.
J. W. Manning, Reading, Mass.
W. Tompkins, Germantown, N. Y.
Uri Manly, Marshall, Ill.
F. Prentice, Toledo, Ohio.
W. H. Starr, East New London, Conn.
Asher Hance & Son, Red Bank, N. J.
John Ruller, West Chester, Pa.
W. Parry, Cinnaminson, N. J.
J. W. Jones, Chatham 4 Corners, N. Y.

ROSES.

John Saul, Washington, D. C. Selected List of newer kinds.

CIRCULARS.

J. W. Jones & Sons. Dwarf, double flowering Helianthus. The public would have better understood, if it had been stated, that this was but an improved variety of *Sunflower*; as it is, it reads as if it might be a new species.

T. G. Yeomans, Walworth, N. Y. Pruning dwarf pears, with nursery catalogue. We have before spoken approvingly of this useful circular.

Sullivan Bates, Bellingham, Mass. Culture of the Cranberry.

New or Rare Plants.

CALCEOLARIA PINNATA.—This is not a new plant by any means, for it is described by Loudon as having been introduced to cultivation from Peru, in 1773; but it is quite rare. For the past two seasons we have seen it in two or three amateur's gardens, and we were quite surprised by its perfect adaptation to our climate. It commences to bloom in the open border in May, and continues till frost, making it of great value as a bedding plant.



The flowers are of a pale lemon yellow, produced in the greatest abundance, and the plant has a dense bushy habit, growing about one foot high. The seeds

grow readily in Spring, in a hotbed, or treated as other hardy annuals.

SOLANUM ATROPURPUREUM, (Schrunk).—Remarkable for the spininess of all its parts, and the purple color of its stems. The flowers are yellow, and borne in bunches from the young branches. The fruit is white, striped with green; towards autumn tinted with orange.

The *Revue Horticole*, from which we take the above, praises it for the beautiful purple of its stems. We give the engraving, in the hope some of our cultivators will introduce it, and try it for its fruit, as so many of the *Solanums* give luxuries for our table, this may add another.



It is a native of St. Paul, in South Brazil. The sketch is one fourth the natural size.

HOYA CUMINGIANA.—A yellow flowered kind, from Singapore or Borneo. Smaller than our common "Wax plant," yet much stronger than *H. bella*.

DISSOTIS IRVINGIANA.—A pink-flowered melastomaceous plant from the Niger expedition. The flowers are about three inches long and narrow. Pretty, but not among the handsomest of the tribe.

CATTLEYA SCHILLERIANA. One of the finest of this splendid tribe of orchidaceous plants from Brazil. Flowers large, and of a rich, purple shaded crimson.—*Bot. Mag.*

CEANOTHUS VIETCHIANUS.—Native of California and Mexico. A shrub three or four feet high, having clusters of flowers resembling our *C. Americanus*, a little smaller, and of a light blue. Probably scarcely hardy in the Northern States.—*Ibid.*

EUGENE APPERT—New French Rose, figured in *Horticulteur Praticien*, in form and color, as well as in habit and foliage, much resembles Lord Raglan.

ECHINOPSIS PENTLANDII—The flowers are very fine, having three rows of petals of a tender rose color, but variable in this respect, as it is sometimes red or scarlet. The flowers, as in all *Echinopsis*, have a long tube and are deliciously fragrant. It was introduced in 1857, from Chili, by M. Verschaffelt.—*Ibid.*

DIELYTRA CUCULLARIA—The *Hort. Prat.* has a delightful notice of this, of which it says, "S' il est une charmante et gracieuse plante;" but as it grows freely in most of our northern woods, our readers should examine it practically, and we are sure will find it worthy of all the praise the French journal bestows on it.

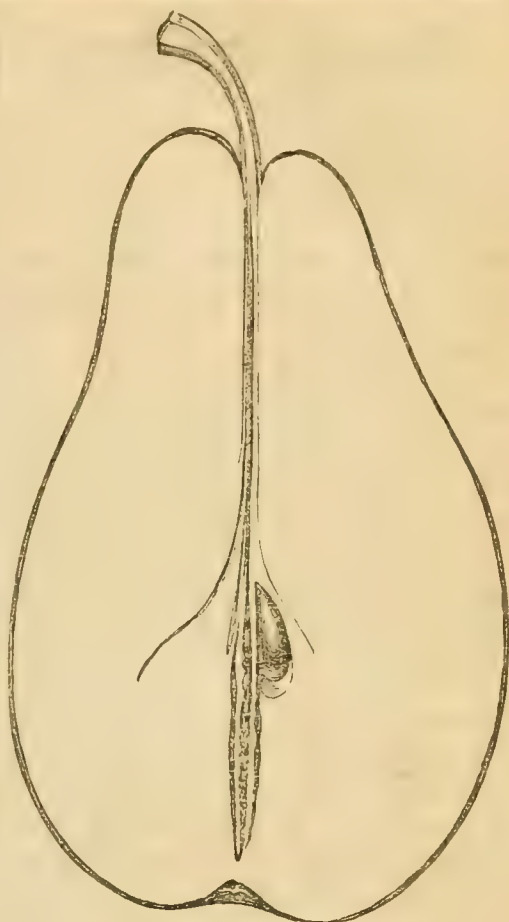
ROSE IMPERATRICE EUGENIE—White, delicately tinted within the centre with rose; we believe it is remountant, though not so described in *Hort. Prat.*

DIANTHUS VERSCHAFFELTII—A hybrid Chinese pink, with single white flowers, with a rich purple throat, arranged in large clusters. It is very dwarf, and recommended for borders and bouquets.—*Ibid.*

ÆSCHYNANTHUS CORDIFOLIUS.—This tribe is getting as numerous as *Achimenes*. They are stove epiphytes, of easy culture, and very showy. They have a great general resemblance,—the present species has heart-shaped leaves, on pendulous shoots, and crimson flowers with a short tube.

RHODODENDRON NUTTALLII.—Native of Bhotan, growing on trees in that region of India. This is the finest of all the *Rhododendrons*, the flowers being nearly six inches across; pinkish white with a yellow throat. The leaves are one foot long.—*Bot. Mag.*

BRYOPHYLLUM PROLIFERUM.—A crassulaceous plant, similar to the old *B. calycinum*, but the greenish flowers are tipped with pink. It is a stove plant from Madagascar, and, from the figure in *Bot. Magazine*, not particularly handsome.



Mr. Boisbunel believes it to be a seedling from the Louise Bonne, and finds it to do particularly well on the dwarf stock. It is praised very highly by M. Depuis, the celebrated French pomologist in the *Revue Horticole*, and as the parent does so well and is so popular with our pomologists for growing on dwarfs, we recommend our importers to be on the look out for its introduction.

HOVEY PEAR.—From Hovey & Co., Boston, Mass. About the size of the Seckel, and with much the same general appearance. In flavor it reminds us strongly of the Passe Colmar, from which we strongly suspect it to be a seedling. If it do not prove one of our most popular pears, we shall be very much mistaken. Since writing the above we have received the following from Dr. Brincklé:—

"I have not received the specimen of the Hovey pear you kindly sent me; which I regret, as I have never seen a specimen of the fruit. My friend, Mr. Berckmans, who has tasted it, remarked to me last week, that it was quite equal to the Seckel, if not superior to it."

New and Rare Fruits.

PEAR, Louis Bonne de Printemps.—Brought to notice in 1857, by M. Boisbunel, of Rouen, France. The color is pale green, becoming deep yellow at maturity, spotted with gray on the whole surface and with a bright red color on the sunny side and with a little gray russet about the insertion of the stem. It ripens towards the end of winter, sometimes continuing till April. The flesh is white, delicate, melting and buttery, abounding with a sweet juice, and having a fine perfume.

Domestic Intelligence.

PLANTING VINEYARDS. A Mr. Haraszthy proposes to plant Vineyards in the Sonoma Valley, California, and to take care of the vines for three years, at the rate of \$210 per acre.—*Alla Californian*.

SUPERINTENDENT OF MOUNT VERNON.—Mr. Thorburn will probably, says the *Boston Journal*, soon be called to Mount Vernon, to superintend the restoration of those hallowed grounds laid out by Washington.

STILL larger Mammoth Sequoias have been discovered. In the more recently discovered grove a tree was found measuring one hundred and fourteen feet in circumference. The grove contains six hundred of these monsters, none others of them, perhaps, quite so large, but all them of approximate proportions. These trees grow on the south fork of the Merced river, about thirty miles southeast of the town of Mariposa. One of the trees, one hundred feet from the ground, has a circumference of sixty-six feet, and a branch measuring eighteen feet in circumference. *California Paper*.

TO MAKE BRANCHES where none exists, in his fruit or other trees, Mr. J. C. Thompson, in the *Virginia Farmers' Journal*, says:—"I passed a knife through the bark and a little into the wood just over the eye or "knerl," where the branch should have pushed, or where it had pushed out when young, and had been rubbed off by accident. A careful examination will show plenty of dormant eyes or knerls (that appear like the knuckle on the human hand.) The sap has only to be arrested at this point to bring these dormant eyes into life.

In passing the knife into the wood over the eye, it should be passed partly around the tree so as to form a slit or gash over the eye from a half to an inch long, according to the size of the tree; and be sure that you press it through the inner bark and into the wood." The result was very satisfactory.

PAPER FROM SORGHUM, of an excellent quality, has been manufactured from the stalks.

A CABBAGE!—We recently saw a picture of a "Humbug Cabbage" in the *American Agriculturist*; but friend Judd had better be careful, or the facts will beat him yet. Witness the following:—"There is now growing in Dr. Hepburn's garden, Mokelumne Hill, a cabbage tree, which in five years, from an ordinary cabbage plant, has grown to be some nine feet high in the main stalk, and when its full branches were on, a month ago, near fifteen feet high. The stalk has become hard as wood, and it bore this year

about fifty or sixty heads of cabbage. The doctor intends to keep it growing, and thinks that, in a few years more, he will be able to boast the possession of the most profitable tree in the country; for, besides great quantities of green cabbage and kroust that it produces, he every season gathers many papers of seed, and hundreds of plants that spring up spontaneously beneath its boughs." So says the *San Andreas Independent*.

CORRECTION.—The figure (3) in our note to the article of C. in our last, got under the head of Union Village Grape, instead of under Brinckle, as was intended. The mistake was so palpable that the good sense of the reader, of course, corrected it.

WINE MAKING IN TENNESSEE.—There was at the Fair a fine display of grapes from the vineyard of Boyce & Severin, and I understand that 1,500 gallons of wine were obtained from 3 acres of that vineyard. —*Southern Homestead*.

FRUIT GROWERS' ASSOCIATION OF EASTERN PENNSYLVANIA.—The announcement made in our last though not official, was made on information from an officer of the Society. We were misinformed as to the time of meeting. It should have been the *first Wednesday*. It will be held at the Cooper Hotel, Lancaster, and we hope will be well attended.

CREEPING WEEDS.—A correspondent of the *Homestead* destroys these by smothering them with a board or other substance; an excellent idea on a small scale.

CALIFORNIA WINE.—California bids fair to excel Ohio in the production of native wine. Most of the wine made there is consumed in the State, and hence very little of it is seen in this quarter, but one of the San Francisco papers gives a list of twenty-six various brands, the principal native wine dealers being Sainsevain Brothers; Kohler, Frohling & Bauck; Jacoby & Bremerman; Newhaus Brothers; N. B. Jacobs & Co., and A. Larrain. The first of these has a stock of one thousand gallons, the second eighty thousand gallons, the third thirty thousand gallons. The sale of California wines in San Francisco this year will amount to half a million of dollars.—*Ledger*.

HEIGHT OF AMERICAN TREES.—"The tallest trees are found in California, where is the giant redwood—the *Sequoia gigantea* of Torrey, or the *Wellingtonia gigantea* of Hooker—which attains the prodigious height of four hundred and fifty feet from the ground, about half as high again as Trinity Church steeple. The yellow fir, or *Abies grandis*, which grows in

Oregon, is also a very respectable tree, often reaching the height of two hundred and fifty feet. In Massachusetts they have the whitewood poplar, of one hundred and forty feet in height, and the same State has also a *Zanthoxylum Americanum*, which is more familiarly known as the toothache tree. In New Jersey there may be found a species of white birch, one hundred and twenty feet high. After these it is quite a contrast to descend to a prickly pear tree of Mexico, which, though rejoicing in the gorgeous title of *Opuntia Acanthocarpa*, is but six feet high. The *Prunus subcordata*, a kind of plum tree, is another sylvan dwarf, and the *Juniperus pachyphloea* is also an arboreal pigmy; neither of those Mexican trees being over ten feet in height."—*Smithsonian Trans.*

ANTIDOTE TO THE POISON OAK.—Dr. Colbert Canfield says, in the *Vera Cruz Sentinel*, "that *Grindelia hirsutula*, and *G. robusta*, by being bruised and freshly applied is a sovereign remedy; the *Grindelia* is used also by the people of the country as a remedy for other cutaneous diseases that are characterized by heat and itching; such as nettle-rash, salt rheum, etc., but I have no other means of knowing its effects in these diseases."

Foreign Intelligence.

HOW TO PRESERVE FLOWERS IN THEIR NATURAL FORMS AND COLORS.

Of late, an entirely new article of trade has arisen in Germany, in the shape of dried flowers. Erfurt, the city of nurserymen and florists, excels in manufacturing bouquets, wreaths, floral decorations for rooms, dinner tables, etc., made of such flowers. We are glad that we are enabled to lay before our readers, the *modus operandi*, by translating for them the following article from the *Deutsches Magazin für Garten und Blumenkunde*. In return, we should like to hear of any professional or amateur gardeners who try their hand at it, how they have succeeded.

First condition: get a lot of fine sand, wash it till all the soluble particles are gone—you can test it by pouring the water off till it looks quite clear; when you are quite sure of the fact, pour the sand on stones or boards placed aslant, so that the water can run off, and let it get dry either by sun or fire—dry, perfectly dry. Then pass the sand through a sieve, so that all dusty particles disappear from it, as there will be such, which washing and drying will not have removed. Then pass through a coarse sieve so as to get rid of too large grains. When that is done your sand should be a mass of fine particles of nearly equal size, as is for instance the so-called silver sand, used for writing. Keep the sand in a very dry, if possible

also in a warm place, that no vitalizing quality may remain in it.

Now for the flowers—cut them in a fully developed state, taking care that they are neither wet nor moist by dew, rain, etc. If you cannot obtain them in any other condition, which is to be regretted, then the following troublesome proceeding will render them dry. Take one or two flowers at a time and put them into a glass, into which pour just enough water that the ends can stand in it; the flower will then dry and still suck up water enough not to fade.

Next, get a box or a pot, or anything large enough to receive your flower or flowers; pour sand enough into it that they will stand by themselves, their stems embedded in the sand. And now for that job which calls upon your whole skill and your most delicate fingering; don't be afraid though, practice renders that too a comparatively easy matter. You have to fill up the box above the level of the flowers with sand so that the flowers are completely embedded in it. By means of a tube or a funnel or a sieve, just accordingly, you can do it in such a way that every particle of the flower rests in sand, and that your filling up shall not have crumpled or displaced the smallest petal. Of course, such a thing can be done only in a very slow way by a beginner.

And now take care not to shake your box, else the flower inside might get hurt. Carry it to a place both dry and warm that all the moisture in the flower may pass into the sand, which being porous, is in turn acted upon and will let the moisture pass entirely out and get evaporated. Avoid, however, positive heat or the colors of the flower will fade, whilst at too low a temperature the moisture in the flower will not dry quickly enough and so rot it. The warmth should, as a general thing, never exceed 100°.

When you are sure that your flowers have fully dried—a thing a very little practice in touching the box will teach you—the thing is done. Open the box and by holding it in a slanting direction, let so much sand run out that you can lift the flower by the stem; by turning it upside down, shaking it gently, and if necessary, blowing on it, all the sand will be removed, and you have the flower in its most perfect form. A little brittle, to be sure, in such a dry state as this, and therefore requiring careful handling. But a few days' exposure to the atmosphere will have imparted moisture enough to the flower to make it considerably less brittle.

You now see why we cannot do with the larger grains of sand; they would press unequally and spoil the flower, which for ever retains all the marks of such pressure; nor with the dusty particles of the sand, because they, as well as the soluble particles which we have removed by washing, would adhere to the hairy and velvety parts of the flower, would never

be got rid of, and would materially impair the original beauty.

For the same reason, glabrous flowers are no fit "subjects." The very newest feature, however, about this business is that this discovery, how to preserve flowers in their natural state, is quite an old affair, long forgotten, and solely resuscitated by the increasing demand for bouquets.

THE DAHLIA.—In planting out, I think a few cautions necessary. Always take care to have the ground well-worked and well-manured, and in a sheltered situation. If wet, it should be thoroughly drained, and the beds in such a situation should be raised considerably above the general level. If the soil is dry and shallow, it should have a larger quantity of rich soil and manure added to it. Then the distance from plant to plant should be sufficient to allow room for the the side-stakes—nothing is gained by planting too thick. As a general rule, I would recommend six feet from row to row, and five feet from plant to plant in the row.

When I plant Dahlias out to grow for exhibition, I first drive stakes firmly down just where each plant is to be placed. Then I plant them out; the tall ones in a back row, and lesser ones next, with the lowest growers in front. I book the names of the kinds as they occur in each row, so that no mistake can possibly occur afterwards. When they have made considerable growth, I lay round each plant a mulching of half-rotted dung. This keeps the soil cool and moist; and, when rain falls, or watering is necessary, enriching material is carried into the soil.—*Collage Gardener.*

BOUVARDIA LONGIFLORA.—This lovely plant produces, at the end of the shoots, a corymb of pure white tubular flowers, with a spreading border to each; and very sweet scented, almost as much so as the common white Jasmine. It grows about a foot high; and produces, when strong, five or six heads of flowers, which last a considerable time in bloom. Like many other plants, when first introduced, it was thought difficult to cultivate, and was treated too tenderly. In fact, it was killed with mistaken kindness. During my travels last summer, I met with it exceedingly well grown, and blooming profusely. I first saw it so managed at the large nursery establishment of Messrs. Fisher & Holmes, at Handsworth, near Sheffield. There the plants were in six-inch pots, and set out of doors on coal ashes, near a hedge, amongst other hardy greenhouse plants, in considerable numbers. Each plant was covered with blooms, and as healthy and robust as possible. No particular treatment was given to it any further than watering, when dry, in the ordinary way. I saw it, also, at an horticultural exhibition at Worksop, equally

well grown, and even better flowered. From these facts I have drawn the conclusion, that a more free exposure to light and air is all that it requires. The soil for it consists of a compost of sandy peat, fibry loam, and leaf mould, in equal parts. It is easily propagated by cuttings of half-ripened wood, in sand, under a frame of bell-glass, in gentle heat. May or June is a good time to put the cuttings in. After roots are emitted, pot them off into small pots, shade till they are established, and then gradually harden them off, and place them out of doors till October, stopping once or twice to make them bushy. Then place them on a shelf in the greenhouse through the winter. In March, repot them into four-inch pots, and put them into a cold frame, protecting them from spring frosts. As soon as the weather will permit, place them out of doors, but do not allow them to flower that season. House them at the proper time; and, in March following, repot them into six-inch pots, stopping them in severely. Then, when the frosts are over, set them out of doors again, and every plant will flower profusely. They may then be brought into the greenhouse or conservatory, to display their beauty, and emit their grateful perfume, to reward the cultivator for the pains and care he has bestowed upon them. After that season they may be potted again into larger pots, and treated hardly as before; and will then become handsome specimens for decoration or exhibiting purposes.—*T. APPLEBY, Collage Gardener.*

Foreign Correspondence.

From our English Correspondent,

CANNON HALL, Near Sheffield, Eng., December, 1859.

ASPHALT WALKS.

The prejudice which heretofore existed against this kind of walks is now fast passing away, and many of the objections which were urged against them have been so thoroughly exploded, that even where they have not been adopted, they are admitted as desirable. Whoever has been under the *gravel dispensation*, with its unlimited and everlasting weed-producing properties; its hoeing, raking, and wheeling, and cost, both of labor and material, and of keeping, or, at least, attempting to keep it clean; and then the annoyance experienced in damp weather, and in the frost, when it is all but impossible to walk on it. After a continued dry time comes a heavy shower, and away is swept the gravel—not on the walks merely, but on the grass—and then the labor of again replacing and again levelling for the next shower, which, in all probability, will produce the same result, not forgetting the perpetual roller, with its cost and labor. When all these grievances are carefully weighed, and it is known that walks can be made perfectly free

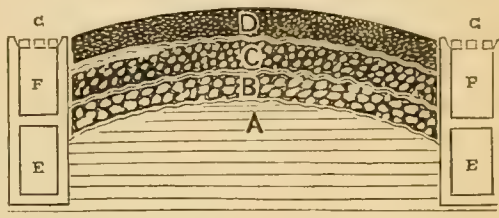
from nearly all these objections, we feel quite sure that our progressive brethren will, if only for their own sakes; give the Asphalt a trial.

I must say I was disposed to make some little objection to these walks myself, when we commenced making them, about eight years ago, but experience has proved that most of these objections are imaginary. I thought the first sharp frost would upheave this covering and spoil our work, causing us fresh expense; but, although we have had some very severe frosts during that time, there has not been one square yard, out of many hundred yards of walks, which has been in the least cracked or disturbed by that agent. One of our walks, round a pond and nearly on the level of the water, seems to resist the frost quite as well as others. I supposed that in frosty weather these would be like glass: slippery and unsafe to walk on; but I found them as safe as other walks under similar circumstances, with the advantage of keeping at all times and seasons, a uniform solid surface, and after rain, it matters not how much, in an incredibly short space of time it evaporates, because it cannot soak in, and the walks are perfectly dry. I have seen in the Sheffield Botanic Gardens, on promenade days, the company driven into the house for shelter by some sudden shower, and in less than half an hour after the occurrence, I have seen the same party enjoying themselves just as if no shower had fallen; this is no small advantage to ladies and gentlemen who wish to take exercises on their own grounds, also to those who have to do the work. These walks may be wheeled on, when perfectly set, without any disadvantage. We have carted two tons weight on them without damage. Weeds will not grow upon them, and they destroy all worms and snails which happen to get on the surface. The only disadvantage I have found (after eight years' trial) is the unpleasant smell which arises from the gas tar used in forming the walks. This gradually passes away and leaves the walks free from smell. Judging from the present appearance of our walks, and from others (some of them in the public streets), I should say when properly made, they will last from fifteen to twenty years. Perhaps once in three years, where they are required to be kept in high ornamental order, it may be found desirable to swim the surface over with gas tar, and then to sprinkle it, when wet, with "*spar*," and rolled a few times; this dressing keeps the surface in order, and preserves the crust from decay.

No definite price can well be laid down for making these walks, as the material differs in cost in different places; with us they can be made more cheaply than gravel walks, having at the same time all the advantages I have heretofore enumerated. The only possible disadvantage that I can conceive of in recommending Asphalt in your country, is the possi-

bility of your peculiar winters breaking up the surface; but this event can hardly happen, if the method of forming these as given in the subjoined practical remarks be strictly followed out.

Thorough draining, is of course, the first consideration, and one that must be well done, in making new walks. When the breadth of walk is decided on, two drains should be cut as represented at E, in the rough



sketch, the depth of two feet is found generally desirable, as the water cannot penetrate through the walk, it must be conducted from the surface, either into one or two drains. If one drain is deemed sufficient, the walk must be made to incline, or dip towards it, so as to throw the water into the drain. We cannot of course give any but general instructions respecting the depth, width or number of drains required, these must be, and at once will be determined by any practical gardener, who knows anything of his average surface and fall, and underground water. We use iron plates, about two feet long and eighteen inches wide, for taking the surface water. When the drains are cut and completed, some rough, durable material can be used for filling up, (see B in cut) to the level of the drains, supposing that all the foundation soil is removed; over this, about six or eight inches of rough stones, about the size of a large apple, should be spread at C in cut, and beaten down by some heavy instrument, so as to render the material as solid as may be. When this is done, a still finer layer at D must be provided; with us, in the neighborhood of Sheffield, we generally use cinders, broken in pieces somewhere about the size of walnuts; stone is also often used for the same purpose: these must have a large quantity of *gas tar* thrown over them and mixed or turned over, so as to cover the entire surface of all the pieces; when this is done they must be spread three or four inches deep and levelled with a rake, just the same as if gravel was being spread, this must then have a good rolling with a heavy iron roller; perhaps I may say it is quite impossible to roll it too often or too much; when this is done, the drain gratings must be laid in their places, allowing a few inches for the next dressings, which is still finer than any of the others, and is either made up of fine gravel, riddled, (to take out the large stones,) or ashes and small cinders mixed. I know

nothing preferable to the latter, and have seen some fine walks made with them. When this material is ready for being spread, it may be laid on in the same manner as the former, having been saturated previously with the *gas tar*. Care must be taken to keep the form of the walk well rounded in the centre (to throw off the water.) A considerable depth of this dressing should be used for this purpose, say four or five inches in the centre, to two at the sides; the grates should be about half an inch below this layer, then the roller again must have a long continued exercise on this; in fact, with us, when we are laying down these walks, we have several rollers and men, who do nothing else but work them from morning till night. If the walks were now to be left, they would be Asphalt walks, but their appearance would not be handsome to look at, their color would be black, and in bright sunshine the heat would be unpleasant. The day after the last dressing, when rolled and leveled, it will, if properly done, be soft enough to take the impression of the foot without showing any of the *tar* on the surface. When too much *tar* is used, it is a long time before it sets well. Then we take a basket of Derbyshire Spar, a white, crystalized, glassy-looking sort of marble; this is broken quite small, (about the size of melon seed, is considered a nice size;) this is taken and sown broad-cast over the walks, just as a sower sows wheat—backwards and forwards until the surface is as light a color as is desired; this must have another good rolling to sink it in and fasten it there so that it may not be washed or swept away; these rollings should be continued after this last dressing, daily passing the roller over them.

Yours Respectfully, W. P.

[A dry, durable and easily kept garden walk is a matter of great importance to residents in the country, and the subject on which our correspondent writes will therefore possess much interest. Can any of our readers give us any information as to the adaptability of gas tar to the purpose in this country? We apprehend that the great fluctuations of temperature in our climate would be a difficulty; although we understand that the City authorities of Memphis, Tenn., are making use of a similar kind of pavement for a roadway. It is described as follows, by the Cincinnati *Scientific Artisan*:

"A bed of screened gravel is first laid down, and it is then saturated for several inches in depth with coal tar from the gas works; then the whole is covered with fine sand, which mixes with the tar and gravel, and as it indurates, the surface becomes firm and hard as a rock. As far as the experiment has been made, it has proved eminently satisfactory, and the new pavement is being extended to other streets. From fifty to sixty barrels of tar are required for a block of three hundred feet."

Gas tar is inexpensive, only about a dollar a barrel in this city. There is another material called Asphaltum, which is much used for roofing purposes, and which we should suppose would be less affected by heat and cold. It is made, we understand, by evaporating the watery particles from the coal tar by continued boiling. It is sold here for about 6 or 7 dollars a barrel.—Ed.]

Horticultural Societies.

[The trifling sums awarded as premiums at most horticultural exhibitions are amongst the least inducements to exhibitors; the main-spring is the honor achieved by successful competition. But the honor is a very trifling one, if none but the few at the exhibition be aware of the fact. It is but justice to the competitors that the widest publicity should be given to the awards, and all horticultural societies should look upon it as one of the essentials to their success. The *Gardener's Monthly*, anxious to aid the horticultural societies in their praiseworthy efforts to encourage the popular taste, will cheerfully devote space to their premium awards, if they will furnish with their reports, the names of the successful kinds of plants, fruits or vegetables, for the benefit of the general public. If it interests John Smith to read in print that he received the first prize for the best hardy perpetual rose, it interests the public to know that that rose was Lord Raglan, or Bacchus, or what not, and both parties are served.]

In future we shall be compelled to omit all portions of awards where the list of kinds exhibited are not furnished us, either by the officers of the society or the exhibitors themselves, and in most cases the first premiums only.]

A CORRESPONDENT at Allentown, Missouri, writes:—"Our Society has now been organized a year, and is in a very prosperous condition."

HORT. SOCIETY OF NORTH ESSEX, MASS.

We have received a report by which we are pleased to see that this society is in a very prosperous condition.

MEREMAO HORTICULTURAL SOCIETY.

This society, located in the extreme western township of St. Louis County, Missouri, has now past one month of its second year. It is a little the oldest horticultural society in the state, has steadily increased from its beginning to the present, in numbers, interest, and usefulness, and may certainly be regarded as a model institution of its kind, in a comparatively new country.

The Officers for the current year are as follows:—*President*, Dr. A. W. McPherson; *Vice President*, Charles Palfath; *Corresponding Secretary*, Edward Vaughan; *Recording Secretary*, William Muir; *Treasurer*, William Harris; *Standing Executive Committee*, Dr. L. D. Morse, T. K. Allen, Herman Stines. Jan. 5, 1860.

ST. LOUIS HORTICULTURAL SOCIETY

At the Annual Meeting of this society, on Saturday, December 11th, the following gentlemen were elected officers for the ensuing year, viz:—*President*, Wm Glasgow, Jr.; *Vice Presidents*, W. C. Woodson, E. M. Lockhart, Jno. H. Lee; *Corresponding Secretary*, Carew Sanders; *Recording Secretary*, John McDurdy; *Treasurer*, Norman J. Clinch.

The regular meetings of this society are held on the second and fourth Saturdays of each month, at 2 o'clock, P. M., at the office of the *Valley Farmer*. CARLW SANDERS, Clk. Sec.

FRUIT GROWERS SOCIETY OF WESTERN NEW YORK.

The Fifth Annual Meeting of this Society was held at Rochester on 4th of January, 1860. The June meeting will be held at Buffalo, and the September meeting at Geneva.

The Officers are:—*President*, C. B. Hodge, Buffalo; *Vice Presidents*, J. J. Thomas, Macedon; W. B. Smith, Syracuse; W. R. Cuyler, Buffalo; *Treasurer*, W. P. Townsend, Lockport; *Secretary*, C. P. Bissell, Rochester.

The President's address was of more than usual merit and will be published with the proceedings of the society, reports of committees, &c. Our report of the discussions is necessarily brief.

"Is the Dwarf Pear a humbug?" Mr. Pinney, of Monroe Co.,

knew one kind which certainly was not a humbug; Louise Bonne de Jersey will bear two bushels to the tree; bears better on Dwarf than on Standard; Of 100 acres of pears, I would set half Dwarfs. Townsend, of Niagara Co.—My crops from Louise Bonne de Jersey dwarf trees have been three to one of any other sort; were I to commence planting pear trees again I would not plant any but dwarf trees, rows 12 feet apart and 6 to 8 feet in row.

Samuel Jay, of Yates County.—In all fruit culture we need a thorough stirring of the whole surface of the ground; a fruit orchard should be a fruit garden, no portion to weeds or grass.

Mr. Coppock, of Erie County, would endorse all that the friends here have said. Don't dig or plow too near a dwarf tree; use only a horse cultivator or between the rows and a fork near the trees.

Mr. Beadle, of Canada.—Belle Lucrative is a dwarf has invariably borne very large fruit and fine crops.

Mr. Frost, of Monroe Co.—Duchesse d'Angouleme is peculiarly good as a dwarf, bearing from two bushels to three and a half bushels per tree.

Mr. Brooks, of Wyoming Co.—Farmers have their minds set on their potato and grain fields, and they won't attend to their orchards, won't go through with cultivator once in two months. If dwarf pear trees need such good cultivation, don't send them to us farmers.

Mr. Smith, of Onondago Co.—The gentleman might as well advise us not to sell Durhams and other fine breeds of cattle to farmers because they thrive better under care and because cattle sometimes die; yet when cattle are well treated they generally do well, and when dwarf pear trees are well treated they also do well.

Mr. Brooks.—Some gentlemen here have advised that every farmer have at least a few pear trees in his garden. Now what we in the country call a garden, is a place back of the house, where we throw the dishwater, and raise any quantity of pig weeds and a few hills of potatoes. (Laughter.)

Mr. Ainsworth, of Ontario Co.—Had in previous meetings said something against dwarf pear trees, but now allowed that some sorts did better, as dwarfs; Louise Bonne de Jersey, for instance, bears double the crop on same land, flavor better, fruit larger and ripens every year. Vicar of Winkfield bears well and ripens well on dwarf, but on standard is not worth anything. My soil is a good wheat soil, and is well stirred all over once each week with a horse cultivator.

Mr. Yeomans, of Monroe Co., spoke of one-third of an acre of Duchesse d'Angouleme dwarf pear trees, eight years old last spring, which bore last summer thirty barrels of pears and netted \$300. Four acres of orchard are kept clean as easily as one acre of potatoes.

Mr. Barry, of Monroe Co.—Dwarf bears far earlier than the standard; aged people can plant dwarf trees and eat the fruit from them; is easily removed, not one in a hundred need fail; not liable to any more diseases than the standards; would not advise farmers to plant a great many varieties; some kinds are as easily cultivated as a hill of corn.

Question Second: Best protection of fruit trees from the effects of severe winters—shelter—underdraining, etc., and the hardest sorts of apples and pears:

J. J. Thomas, of Wayne Co.—In Illinois, the farmers feel the necessity of shelter from severe winter winds; the more trees are protected from violent winds the better they stand the winter.

Mr. Barry.—In pear cultivation especially, shelter is of consequence, shielding the trees in winter and spring and in autumn preventing the fruit from being blown off. There are plenty of evergreen hedges, larch, spruce, etc., which will grow as fast as your trees do and make an A. No. 1 shelter; mentioned case of two wheat fields, side by side, the protected one had enough better crop to more than pay for his hedge.

Mr. Beadle.—In Canada, the farmers are planting belts of trees at the west sides of their farms; wheat crops improved, cattle protected. Norway Spruce is a good hedge.

Question Third. Grape culture—propagation—grafting—and market value.

Mr. C. P. Bissell.—Grafting the vine during the full flow of the sap is a difficult matter, but there is an old process called inarching, by which nearly all risks are removed with a skilful operator; Root-grafting the grape is not difficult; we "saddle-graft" all our single eyes as to "growth." In 1858 we started our vines in pots, in spring of 1859, after buyers had chosen all they wanted, (and they did not select the poorest,) we set out the balance in the nursery and not one of 700 Dianas died; some of them even bore a little fruit; can a layer bear quicker?

Mr. Hoag, of Niagara Co., likes pot plants better than layers; in 1856 set out little Dianas from pots and they averaged 40 clusters in three years.

Mr. Ellwanger, of Monroe Co., waits until vine has made a fair start in spring, then grafts on level with soil, heaps earth around the junction, covering all the scion except one bud.

Mr. Ainsworth.—Grape grafted in winter like the apple. The advantage of pot vines is that the buyer has every fibre of the root, while from layers many must be cut off or broken off; the pot vine has only to keep on growing, while the layer has to go to work and send out new roots, etc. Delaware which in spring of 1859 were only size of knitting needle, made fifteen feet of growth in summer, have ten times as many fibrous roots as the layers have.

L. D. Longworthy, of Monroe Co.—The first Clinton grape in this

country I grafted upon an old vine here, waiting until the sap had pretty well run in the spring; have grafted upon wild vines and had the scions bear fruit in two years.

Mr. Peck, of Ontario Co., thinks that it pays to lay down our grape vines and slightly cover them with earth each winter. A neighbor, whose vines stand in a sheltered situation, gathered 3000 pounds from 1000 vines as the first crop. Another neighbor who left his vines exposed, would have saved one dollar per vine by covering them.

Mr. Ainsworth laid down his vines each year and has full crop, a neighbor who does not protect his vines has partially lost his crop each year. Catawbas are not the grapes to cultivate here—not early enough.

Mr. Barry.—On east or south side of a board fence fruit will ripen better than on trellis or stake; not in danger from mildew if the frame be a little away from the fence; Delaware, last season, grew fifteen to eighteen feet in height.

H. B. Miner, of Monroe Co., never had a really ripe Isabella or Catawba on an open trellis, while on east or south sides of house, both ripen well. Diana ripens well on open trellis.

J. J. Thomas, spoke of Dr. Farley's vineyard—First, it was thoroughly tile-drained; second, plowed and subsoiled; third, lake mud carted on and worked into the soil; consequences—In 1859, when under ordinary circumstances, I did not see a ripe Isabella, Dr. Farley's were fully ripe, rows running north and south, ten feet apart and vines twelve feet apart in the row, trained to wire trellis seven feet high, according to the renewal system; I never saw a sight equal to it.

Comparative merits, all things considered, of Pears, Apples and Small Fruits for extensive market cultivation by skilful cultivators.

Mr. Sharpe, of Niagara Co.—As soon as farmers in our county are convinced that there is money to be made in cultivating dwarf pears they will take good care of the trees.

Mr. Brooks.—The day will come when every holder of land, great or small, shall be considered disgraced if he does not supply his family freely with such luxuries as we see here before us, (waving his hand toward the loaded tables,) and they are the greatest under heaven.

Mr. Barry.—Near large cities, small fruits will be most profitable; where the crop must be packed and sent by railroad, the pears and apples will be best. The apple crop of Niagara county alone was \$500,000. There are risks in pear trees, but just think of \$18 and \$20 per barrel in New York City. To the skilful cultivator the pear offers the greatest inducements. Thinks the pear crop is uniformly more certain than the apple; if tree dies from blight, replace it from a reserve which you have ready.

Mr. Smith.—The taste of the people is being cultivated, and they are willing to pay for good fruit; pears that, a few years ago, sold in Syracuse for \$1.00 and \$1.25 per bushel, now bring \$4.00 per bushel. In planting I would not care to plant any but dwarfs.

Ellwanger.—Twenty-five years ago there were not 100 pear trees in this city; It was in 1835 that I bought the first dwarf pear tree; requires skill and care to grow pears; farmers will, one by one, go into pear culture as fast as they can get the needful information.

Value of Superphosphate of Lime and other special manures for Fruit Trees and Vines.

All who spoke seemed to think that the same money spent in stable manure would produce greater results. The per centage of years that the Peach tree bears in the various portions of Western New York, and what places are best for it?

Mr. Yeomans had not more than three or four failures of his crop in 30 years. An acre of trees, only six years old, bore 270 bushels. Peach needs underdrained soil; each year cuts out about one-third of the top, and gives increased vigor to the centre of the tree.

Mr. Hodge and others.—Near the Lakes the crop scarcely ever fails.

What is the best manner of preparing ground for orchards?

Mr. Smith.—First, underdrain, especially if it be a strong soil. Second, subsoil to at least twenty inches deep. Third, make it rich enough to be suitable for corn.

Mr. Barry has looked at land a good deal this summer; had hardly seen an acre suitable for a nursery without tile draining; tile drains, 3 feet deep and 6 feet apart, cost about \$30 per acre.

What is the best manner of preparing and planting trees?

Mr. Yeomans.—Before the tree is planted cut off all the branches so as to restore balance between top and roots; new branches will be thrown out in abundance; apples should be pruned, so that lower limbs are full five feet from ground; plant the tree forty feet apart each way, and the peach trees alternately in rows.

Mr. Barry.—In planting dwarf pear trees, best to cover the stock as high as the union of the pear with the quince; trees with low heads are best whether here or on the prairies; no tall trunks for leverage.

B. Fish.—In planting my orchard, found that those which I cut back most in planting, came on best and made the best trees.

Langworthy.—Some gentlemen advise plowing in orchards; I never plowed except I heard the roots crack; would never advise anything heavier than a common cultivator.

What is the most suitable age for planting fruit trees?

Hodge.—Peach one year from the bud is better than older. Cherry, two years from bud and only 4 to 6 feet high. Pear,

dwarf, two years from bud. Pear, standard, from 6 feet in height. Apple, 3 to 4 years from graft and about 6 feet high. In smaller trees we are more apt to get all the root-fibres, the spongioses which do the real nourishing to the roots and tree.

Lanzworthy.—Danger in buying a peach tree older than a yearling is that they may have the borer in, while the yearlings never do. If you have not got the borer you need not have them—only do not buy them.

Is Spring or Fall Planting preferable in dry soil?

Mr. Frost.—Apple, Pear, Plum and Cherry plant in fall. Peach, in spring. Planter has whole season to get ground ready for fall planting.

Mr. Bloss, of Monroe Co.—The alternations of heat and cold are so sudden and violent in the spring that the season is not to be depended upon. A tree planted in the fall gets fixed and ground well settled and ready to grow in spring almost like an old tree.

J. J. Thomas.—One advantage of spring planting is that the ground has recently been stirred; cultivators who never cultivate had better "plant in the spring."

A Committee was appointed, who brought forward appropriate resolutions as to the death of David Thomas, the botanist, the pomologist and the Christian gentleman.

The Society adjourned to meet in Buffalo, in June next.

ANNUAL MEETING OF THE CONN. GRAPE GROWER'S ASSOCIATION.

The association met at 7½ o'clock, in the City Court Room.

David Clark, Esq., President, read his annual address, which spoke of the importance of the grape culture, &c. A marked improvement in the quality of native wines was noticed at the last State Fair, but much wine was spoiled by the addition of sugar, and became simply cordial. He concluded by referring to the past success of the society, and hoping for still greater results in the future.

M. C. Weld, of the *Homestead*, read a paper on Grapes. The Diana, Isabella, Hartford, Prolific and Concord are those recommended by the Association. Of the Hartford Prolific he spoke highly. The Catharine is a native of this city. A number of Connecticut seedlings were found to be worthy of cultivation. A grape had been brought from El Paso, the clusters of which sometimes weighed 20 pounds, had been brought to domestication in this climate.

Rev. Mr. Loveland, of Granby.—Think it is not well to manufacture wine from Fox grapes without sugar. With cultivated grapes wine had been made without sugar which was of good flavor and improved with age. The intoxicating quality is possessed in a great degree by the best native sweet wines. By using pure native wines, we drive out the poisonous, injurious liquor.

S. B. Case, of Canton.—Gave his experience in making wine. First used four pounds sugar to the gallon—found it too much, and gradually came down to no sugar at all. Made 60 barrels last year. To a keg of pure juice I added 1½ lbs. sugar and three gallons of water—it made a very good "dry wine." From cultivated grapes, fully ripe, I think wine may be made without sugar. Wild grapes do not generally mature perfectly, and some sugar is needed. His "Crystal White Grape" was found wild in a swamp, and cultivated. It is white and transparent.

Col. Dewey spoke of the fruitage of the Rebecca.—He had but one year's experience, but the fruitage was satisfactory, and it promised to be prolific. It grows slowly at first, but afterward becomes very thrifty. Noticed the same fact with regard to the Delaware grape. Both were proved to be hardy vines.

E. A. Holcomb, of Granby.—Kept grapes in good condition very late in the season, by packing in layers with newspapers between. Sawdust is next best, and cotton third. Kept in cold chamber, as he would apples.

Mr. Dyer's opinion was that they should not be packed in any thing of an absorbent nature.

T. A. Mead, of Greenwich.—Had a friend who kept grapes very late—till New Years. A cool temperament was very important. Had kept apples in the same way months after maturity.

Mr. Loveland.—It is important to avoid the gathering of moisture among the fruit. Laid down in dry cotton they kept well.

David Clark.—Adopted two methods—first by laying in alternate layers of dry cork dust, second by similar layers of cotton batting; the cork dust proved best. Grapes kept very plump as late as April. A neighbor of his had kept them very fresh till the last of April, in cotton batting. Grapes and packing must be perfectly dry.

Mr. Weld moved that the four grapes recommended by the association last year, should be adopted for this year, in the same order—Diana, Isabella, Hartford Prolific and Concord.

A vote on the question changed the order, as follows: 1st, Diana; 2d, Hartford Prolific; 3d, Isabella; 4th, Concord.

The Association then proceeded to the choice of officers—Mr. Clark declining a re-election—with the following result:

President—Col. D. S. Dewey.

Vice Presidents—C. S. Middlebrook of Bridgeport and E. A. Holcomb of Granby.

Secretary—M. C. Weld.

Treasurer—Richard H. Phelps.

The following resolution, among others, was discussed and adopted:

Resolved, That the samples of wine exhibited at this meeting show a decided superiority over those of the last year.

MEETING OF FRUIT GROWERS AT WILMINGTON, DEL.

A Meeting of persons interested in Fruit culture, was held at the office of Dr. Norris, on Wednesday evening, December 7th, 1859, when, on motion of Dr. Asken, Hon. John Wales was called to the Chair, and Dr. Norris appointed Secretary pro tem.

The President, in a few remarks, stated the object of the meeting to be the formation of an association, with a view to the encouragement of the culture of fruit. He, in his usual happy manner, alluded to the mutual advantage accruing to members from a discussion of the different varieties of fruits, and the great benefit to be derived from a comparison of views, and the advantages to be derived from a society where the members were practical men, would be very great. Other gentlemen present concurred in the views expressed by the president. After quite animated discussions, the meeting adjourned to meet at the same time and place, on Wednesday, December 21st. GEO. PEPPER NORRIS, *Secretary*.

Adjourned meeting held at Dr. Norris', December 23d, 1859. On motion of Mr. Taylor, it was resolved that a society for the promotion of fruit culture be organized. Edward Bringham presented samples of Pears—Giant Moreau, Bourre d'Arenberg and Winter Nels; last was very large and fine, without skin, most equal to Bartlett—well kept. Mr. Taylor asked if he should plough an old orchard. Ploughing and top-dressing with well rotted manure, in fall, recommended by E. Bringham and Dr. Norris. Wood ashes, strongly, by E. Tatnall, had applied at rate of 400 bushels to the acre. Tangy thought plowing would do no harm even if roots were slightly injured, root pruning increases productiveness. Mr. Sayers related his success with Seckel pears. Dr. Bush knew some kinds improved with oxide of iron. Ely's pear trees were in iron soil, and no smother barked trees or better apples were produced in Delaware.

Can Pears be grown for market on Dwarf?

E. Tatnall said it was too early to tell. Dr. Beech knew first dwarfs here, fifteen years ago; they fruit annually and show no symptoms of decay.

Grapes—Delaware. Dr. Banks', no growth. Dr. Norris thought they would pay with proper culture. Tatnall's, sixteen feet. Diana—universally agreed to recommend. Rebecca—doubtful. Taylor's had made good growth. Tangy's had all died.

Strawberries, &c.—A few words about strawberries terminated the remarks for the evening.—Wilson's Albany, McAvoy and Hovey, all had admirers. Mr. Tatnall alluded to a very promising Wilmington seedling, whose merits have not yet been made known to the horticultural public.

MISSOURI FRUIT GROWERS' ASSOC'N.

This Association held its Second Annual Meeting, at Jefferson City, on the 29th and 30th of December last. The interest in the Association continues undiminished. Grape culture is rapidly becoming a matter of paramount interest, to Central and Southern Missouri especially. The Officers elected for this year are as follows:—*President*, Norman J. Colman. *Vice Presidents*, Dr. A. W. McPherson; Prof. Geo. C. Swallow; Gen. M. Horner; Dr. McGuire; W. C. Price; E. Burden, John Dedrick. *Corresponding Secretary*, Dr. L. D. Morse, Allentown, Mo. *Recording Secretary*, William Muir. *Treasurer*, Dr. C. W. Spalding. L. D. M.

January 5th, 1860.

OREGON FRUIT GROWERS' ASSOCIATION.

The second annual meeting of the "Oregon Fruit Growers' Association" was held at Salem, Oct. 5th and 6th.

The display of fruit was universally conceded to be very fine and very extensive.

The collections of the different exhibitors mostly comprised specimens of all the leading varieties grown in the State. On the stand of Mr. T. B. Ricky, we noticed a *Blue Parmatin*, measuring 15 inches in circumference, and on Mr. Wm. Cox's stand a *Rambo*, 14½ inches in circumference. The largest Peach on exhibition by Mr. J. L. Parrish, measured 9½ inches in circumference, of good flavor. Of grapes, J. W. Ladd, of Yamhill, had the largest and choicest collection, comprising the *Royal Muscadine*, *Diana*, *Isabella*, &c. Among the really new things, was a bouquet, comprising 36 varieties of Dahlias, presented by Mrs. Philip Ritz, of Benton County.

HORT. SOCIETY ROYAL OF BRUSSELS.

At the last grand exhibition there were twelve species of *Ancrothillus* exhibited, and splendid collections of leaf plants; amongst the newer kinds, not already named in our pages, were *Beluina argentea*, *Aristolochia leuconeura*, *Tradescantia cupreata*. The *Roses* in pots are spoken of as splendid objects.





ABIES WILLIAMSONII

DRAWN BY J. M. COLEMAN. PHOTOGRAPH BY J. M. COLEMAN. PRINTED BY J. M. COLEMAN.

THE GARDENER'S MONTHLY.

DEVOTED TO

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THOMAS MEEHAN, EDITOR.

MARCH, 1860.

VOL. II.—NO. 3.

Hints for March.



FLOWER GARDEN AND PLEASURE GROUND.

Pruning of Roses and other flowering shrubs will be the first operation in order. In the "summer" roses, or those which bloom only once in the season, the rule is to thin out the weak shoots and leave the stronger ones, merely shortening their tops. If pruned severely in the usual shortening style, they will not bloom freely. The hybrid perpetual roses, if wanted for early flowering, should also be served much in the same way; but as their chief value is as fall flowerers, a severe pruning now produces a vigorous autumn growth, bearing large and luxurious blooms. The Tea, China, Bourbon and Noisette roses which flower best on young wood, should be well cut in.

Pæonies, Dicentras, and other hardy herbaceous plants that have been two years in one situation, should be taken up, divided and reset in new soil, if the finest flowers are desired. There is a growing revival of the taste for beautiful herbaceous plants, which the Frenchy fashion of growing a few kinds in masses for mere gaudy display, had well nigh annihilated. Herbaceous plants take a little more tying and fixing through the summer, but make up for it by variety and peculiar interest.

The edges of walks, beds and borders, should have their annual edging—not cut deeply down like a wall, but as neatly and shallow as possible; a good eye is necessary to avoid harsh lines; and a very sharp spade, or what is better, an edging iron made for the purpose, employed. Walks should be forked up with a drag or fork hoe, and an additional fine coat put on the gravel where needed, and then rolled over. The wetter the gravel, the better for the rolling operation, provided it is not wet enough to adhere to the roller.

It is bad policy to have more than half an inch of sand on the stone bed of a carriage road, as it cuts in too deeply in wet or frosty weather. In foot walks it is not so important, as the rounding of the centre throws off the water to the sides, and it soon dries hard after a rain.

Where box edging is employed, it often becomes too large and thick after having remained some years in the one place—now is the time to take it up and relay it. After digging up, the lower roots are cut off with a hatchet, and the young top shoots squared with a sharp knife. The border is then tramped hard and firm, made level or plane on the surface, a smooth cut down three or four inches into the soil, made with a sharp spade along the face of a line stretched on the surface for a guide, and then the box set in with the hand, neat and level, finishes the process. The surplus box can be sold or exchanged with the nurseryman, or employed elsewhere in the ground. Laying of turf and sodding should be forwarded at the earliest opportunity after the frost is out of the ground; the earlier it is done, the better will it be during the season following.

It used to be the universal practice to dig up amongst shrubbery clumps at this season of the year, "to let in the air about the roots," but a light dressing of well rotted manure, raked in with a coarse rake over the surface is now preferred by all the principal European gardeners, and will no doubt prove as good here.

In the more favored latitudes, where cold wintry winds are not likely to occur again this season, planting may at once commence; but otherwise wait awhile. A bitter north-easter coming soon after a tree has been transplanted, leaves it but a poor chance for its life; evergreens especially, from the great amount of evaporating surface their leaves expose, are particularly to have attention in this respect; hence, in this latitude, few good planters remove evergreens until April, and many not till May; when, if the roots are healthy and the plants vigorous and thrifty, they often do better than at any period of the year.

Nothing adds so much to the beauty of a place as plenty of shrubbery. This is the season for putting in cuttings; many kinds growing easily so. The

pieces are cut to about six inches in length usually, and inserted about two-thirds of their length in the soil—much left out of the ground exposes too great a surface to the atmosphere, and if the cutting does not dry up altogether, it is a long time rooting.

Chrysanthemums are now indispensable for autumn decoration of the flower garden. Now is the time to procure a supply. They do well in any rich garden soil that is not too dry. The Lilliputian, or Pomponé class are still popular for conservatory or pot culture, but the large flowering kinds still remain the gems of the open ground.

Hyacinths, Tulips, Lilliums, and other hardy bulbs set out in the fall, and covered through the winter, should be occasionally examined, and when they show signs of active growth, must be uncovered; in this latitude this is not safe until towards the end of the month.

Whenever it is prudent to accomplish the last feat, hardy annuals may also be sown; the earlier they can be started, the finer they flower. Sometimes, after sowing, cold wet weather ensues, when the seed, if it is started at all, is liable to rot. It is best to save a few seeds in each packet, and in two or three weeks after sowing, go over and scatter in the places where the other portion was sown. Every place where seed is put in should be marked, and with the kind; when the border plants are then set out, the annuals will not be disturbed. A change of soil occasionally is beneficial to the flower border. With some kinds of flowers, the Verbena for instance, a new soil is a great luxury, for which they will be very grateful to you. The first two inches of the surface soil of an old pasture, mixed with about a third of the surface soil of an old wood, makes an excellent medium to grow border plants in. Not the mere rotten leaves from a wood, but the dark, black *humus* in which the roots of the trees, and other rank vegetable roots, have already begun to run riot among.

The improvements that the last few years have made in the Hollyhocks have rendered them very popular for ornamenting shrubbery borders, to which they add very great interest, and are peculiarly appropriate. They may be transplanted quite early in the season, and flower the more freely for it. They are propagated by dividing the roots in the Spring, or by seeds sown as soon as ripe in Summer. The choice kinds are increased by eyes made by cutting up the flower stems. These are struck in a gentle bottom heat.

VEGETABLE GARDEN.

This is a busy season south of Pennsylvania in this department; here, we must wait till the end of the month, and northward, still later. The crops noted,

will, of course, be dependent on the arrival of the season, which is rather indicated by the ground becoming warm and dry, than by the almanac. It is very important to have crops early; as soon as the ground is therefore in good condition put in the seed. Possibly a cold rain might come and injure them and you may lose, and have to make a new sowing. Even so, it is but the loss of the seed and labor, while if the seed do *not* die, the early crop will more than repay that risk.

In the hotbed, Pepper, Egg-plant, Tomato, and Cucumbers may be sown,—and in a cooler hotbed frame, Early York Cabbage, Cauliflower and Celery. Those who have not got a hotbed can sow a few pots or boxes, and keep them near the light in a warm room.

In the open air, Peas and Potatoes are about the first crops to be attended to; of the former, the varieties have now become so numerous that even "new grapes" will soon have to give way in that respect. The difference, too, is so slight that we are in doubt whether yet to recommend to our readers any other as the earliest than the Prince Albert, so long cultivated, or the "Extra Earlies" of our own seedsmen. The "Daniel O'Rourke" has become the early pea in England, as we see by foreign journals; but we cannot see that it is materially, if at all, different from the Extra Earlies so long grown here. It may be the same thing taken from here, re-baptised, and sent back again to help swell the \$700,000 which Staticians tell us we sent to Europe last year to pay for our annual little bill of "garden stuff." Of early Potatoes, we think Fox's Seedling is the earliest, though in some localities the preference is given to the Early Walnut. Beets, the Early Six Week Turnip rooted, is perhaps the earliest. Carrot, the Early Horn. Cucumber, the Early White Spine, or Early Cluster. Lettuce, the Silesian, or Early Curled—to cut before heading; and the Early Butter left to head, are the first in season. Amongst the Radishes, the Old Short Top, and Red and White Turnip are still ahead; and in Spinach, the Old Round Leaved; so that on the whole there has been little advance made on early kinds of vegetables.

In addition to sowing of the above, Onions, Leeks, Parsnips and Parsley must be sown at this season—not for the main crop, but to have a few in advance of the rest. To keep over the winter, almost all kinds of root crops become tough or coarse if sown too soon.

The old Green Globe Artichoke, though a delicious vegetable when rightly cooked, is seldom seen in gardens. Now is the time to make beds; they require no peculiar cultivation; what would suit a crop of rhubarb, does for this exactly; and the rhubarb—see that your garden is well supplied; now that it

can be dried like apples, and preserved in so many ways, it can be had on the table all the year round.

FRUIT GARDEN.

Pruning of most kinds of fruits has been accomplished through the winter; it is customary, however, to leave the peach till towards spring, in order to cut out any wood that may be injured through the winter. In other respects, the peach should have little pruning at this season, as it tends only to make it grow more luxuriously, and a too free vigor of growth is a fault of the peach in this climate. The only pruning admissible, is that which has for its object the production of shoots in naked or desirable places.

The Strawberry, where it has been covered during the winter, should be uncovered as early as possible in spring, that the warm spring suns may exert all their influence on producing an early crop; as soon as growth commences, a sowing of guano has been found to be of great benefit to the crop of fruit.

Raspberries and Blackberries may be planted towards the end of the month; they should be cut down to within a foot of the ground at planting; they will, of course, not then bear the next season after planting. But this is a benefit; no fruit tree should be allowed to bear the same season.

And it may be said of all fruit trees, they should be severely pruned at planting, and every other means resorted to in order to produce a vigorous healthy growth. Fruit, worthy of the name of fruit, is the result of healthy growth, the season previous, and it is impossible to obtain both the same season of planting. If any fruit set in a transplanted tree, it should be remorselessly torn off and cast away.

As we write, reports are reaching us from the Western States of an almost total destruction of peach and apricot buds, by the severe weather. Our friends will yet find it to their interest to take "trouble" with a few trees, and train them to stakes "*en espalier*," by which they can readily be protected by branches, from the sun, which is the cause of the injury by its shining on the frozen buds. Those who have such trees on boards or fences, should take measures to protect the flowers from the warm mid-day sun.

The currant forms very beautiful objects trained "*en espalier*," and are very convenient to protect from birds, or to shelter from sun and dry air when it is desirable to keep back the fruit until a very late period of the season.

VINERIES AND ORCHARD HOUSES.

In the early houses, towards the end of the month, grapes will be about setting their fruit—one of the most critical periods of the course. Many excellent gardeners object to syringing at this period, but the

experience of others, given in our last year's volume, shows that it can be and is done, in some cases, with great advantage. The fact is, when a vine is perfectly healthy, a course of treatment that would be injurious under other circumstances, may be even advantageous to it, and so, treatment must, in a great measure, be regulated by the state of the vine. The roots must especially be maintained in a healthy state, which may be known by a free and vigorous pushing forth of strong fibres in every direction through the soil—and then these roots can only be continued healthy by carefully protecting the leaves from injury. The least injury to the leaves has a corresponding influence on the root. If, therefore, all sudden changes are avoided, either at the roots or about the foliage at the time of setting, so that the roots are allowed to progress without interruption, there will be little danger of grapes or any other fruit not setting.

While fruit trees are pushing forth their young growth, forcing houses can scarcely be kept too moist. As the wood hardens, the atmosphere must be kept gradually drier.

Above all, in forcing, *take care of the leaves*, and in all your operations let it be your first care to look after them. In pinching and stopping off vigorous shoots, the object should be to throw the sap's influence into the weaker shoots to make their leaves stronger and larger, so that the whole effort of the tree should be equalized—no shoot should be allowed to grow stronger than another, but should be taken out at once as soon as its ambitious tendency is discovered. The tubs or pots containing the trees should be frequently turned around, so that all parts of the tree may have equal advantages; "*Liberty, Equality, and Fraternity*," should be the watchword of their government, and every branch trained to do no injustice to its neighbor. Frequent potting or retubbing is of no material importance; manure water and top dressings will do the work. We have had peaches, cherries and figs to remain many years in the same tubs, bearing fruit annually as freely as could be desired.

Grape vines from eyes may now be propagated. Cut the shoot immediately above an eye, and about one inch below. Mix them with slightly damp moss for a couple of days or so, and then insert up to the buds or eyes in sand with a bottom heat of 70°. Native grapes having harder wood may be retained in the moss for two weeks, when the wood will be softened sufficiently to strike root at once.

GREENHOUSE PLANTS, &C.

Dahlias should now be brought forward. A good plan is to shorten the extremity of the roots, put them in six inch pots and place in a warm greenhouse. In a few weeks they will sprout, when they should

be shaken out, divided with a piece of root to each sprout and separately potted in 4 inch pots.

Camellias will require rather more water while growing than at other times. Just before they grow is a good season to graft. Cut down the stock, cleft graft in the crown, wax, and plunge in a bottom heat of 70°. A great many kinds may be had on one plant by the bottle system, practised by the writer's father, thirty years ago. A shoot about to grow is obtained and attached to the stock as in inarching, the end of the shoot being put in a small phial of water suspended beneath it. This plan does best, however, with the young wood in July.

Azaleas succeed well by grafting with the half ripe shoots of the present season's growth on plants raised either by seeds or cuttings. Old wood does not take readily.

Chrysanthemums should now be raised from cuttings for fall flowering. They make better blooming plants than off-sets.

Fuchsias may now be readily struck from the young growth from the old plants, which will make excellent blooming plants for the next summer season.

Geraniums, Pelargoniums, Cinerarias, and Chinese Primroses must be kept as near the glass and light as possible; they do little good in shady places. Keep off the green Aphis—for this on a small scale there is nothing like hot water, as described in our last volume; on a large scale, tobacco-smoke in several successive light doses is still the best remedy.

Auriculas, Carnations, Pinks and Polyanthus—the prettiest of florist's flowers must be kept cool, just free from frost, with plenty of air if the best results are desired.

New Holland and Cape plants, such as Epacris, Acacia, Heaths, etc., are now the glory of the greenhouse; hot bursts of sun on them should be avoided, as it lays in them the seeds of "consumption," which frequently carries them off the following summer.

Look out for a good stock of bedding plants in time: by striking cuttings of such things as grow rapidly and speedily, and sowing seeds of such annuals as may be advanced to advantage.

Pansies are coming now into flower. They like an airy frame, where they will not be roasted at midday nor exposed to drying winds, and yet have a free circulation of air and plenty of light. Planted out in such a frame, and the old shoots cut away as soon as the plant has done flowering, the plants will keep healthy over till the next season.

Superior varieties can be raised from seed. Choose those with the roundest petals, best colors, and the first flowers that open, to raise seed from.

Communications.

HISTORY OF THE BULLITT GRAPE.

BY DR. E. TAYLOR.

One word more in regard to the Cuyahoga Grape. I see, from my name having been associated with its introduction, that it has got mixed up in the minds of many that it is the same as the Bullitt or Taylor Grape, noticed in Mr. Samuel Miller's Catalogue and in some other publications. This is a mistake entirely. While on this subject, let me say that I hope I have no doubt but that friend Miller will drop the "Taylor" from the Bullitt grape as he appears to be the only one that so calls it, and it has been known for some time as the Bullitt.

As this grape is likely to elicit considerable attention, I will, with your consent, give its history as stated to me by Judge Taylor, of Kentucky, who has introduced it to public attention. A number of years since, a Mr. Cobb, passing from the southern part of Kentucky to Virginia, when on the Cumberland Mountains, near the line between Kentucky and Tennessee, observed a vine growing over a bush near the road, full of grapes. He rode up to it and gathered to his satisfaction, and was so much pleased with the fruit that he marked the spot, and on his return in the fall, dug it up, and took it home, and planted it out on his farm. He afterwards sold the farm to a Mr. Bullitt, and in conversation with Judge Taylor (who is a most enthusiastic pomologist) mentioned this vine. They immediately called on Mr. Bullitt, hoping to obtain some cuttings, but found that the vine had been so trampled down by the cattle that there were no cuttings; but Mr. Bullitt very kindly insisted on his old friend and neighbor Judge Taylor, digging up the vine and taking it, which he did, and has been amply rewarded by having the best table grape, he thinks, which he has ever tasted. He describes it as being a white grape, nearly as large as the Catawba, remarkably sweet and ripening some fifteen days before the Catawba, vines perfectly hardy, very strong grower and easy to propagate, and never mildews. Other persons who have seen the fruit, concur with him as to its quality.

[Other parties unite in hoping that the name Taylor be dropped, and the original name Bullitt be retained; which, we trust will be done.—ED.]

LINUM GRANDIFLORUM RUBRUM.

BY JOSEPH RIFT.

Last summer, you recommended the *Linum grandiflorum rubrum* as a bedding plant. I lift mine on the approach of cold weather, and set them in the greenhouse, where they bloom till spring, and in my experience, much better than out of doors. I have tried them two winters and consider them quite indispensable.

HARDINESS OF CHINA ROSES.

BY CHARLES G. PAGE, WASHINGTON, D. C.

By China Roses I mean Teas, Bengals, Noisettes, and their intermediates. There is something very peculiar in respect to what is usually termed the "hardiness" of these roses. Several years since, I ventured the opinion that their hardiness was quite circumstantial; that is to say, they were hardy or not according to circumstances, and experience since that time has convinced me that many of these roses, which are generally considered tender, are, in reality, very hardy. The China Roses will frequently bloom out of doors in this region, after exposure to a temperature of 24° Fahrenheit, and the foliage will appear to be unharmed by a temperature still lower, if not too long continued. This looks like hardiness, and in what then consists their tenderness? And is it not possible to make them always hardy?

The extreme activity or tendency to grow and bloom, even at very low temperatures, seems to begot the tenderness of these roses, and it is reasonable to infer that if at proper times this tendency should be checked by any means so as to allow the wood and buds to mature before winter sets in, they would endure great cold without injury. It is well known that when these roses are set with a northern exposure, they are less injured than when exposed to the sun. They stop growing early, and the sap is quiet during winter. But we must have our roses in all kinds of exposures; and it is difficult to imitate the north exposure by temporary shade. We can do this however to some extent by a shade of pine or cedar brush, but it would be unsightly to retain such kind of shelter throughout the year. Cutting the roots or a partial lifting of the bush might have the desired effect if done in season, which should be before the hard autumnal frosts: in this region, about the latter part of October. Some years since, I noticed that a Solfatarre, which had been transplanted in the fall, escaped injury in the winter; while one near it, and undisturbed, was killed close to the ground. There is probably no variety of rose that will endure a temperature of zero Fahr. upon unripened branches, and expanded leaf buds; and there are probably very few roses that will not endure this temperature provided the wood has been fully ripened and the buds are all dormant and the sap quiet. The Gloire de Dijon is an excellent illustration. It belongs to a tender family, but is perfectly hardy here. Its hardiness is not, however, entirely intrinsic, but depends upon its habit of growth. Unlike Teas and Noisettes generally, it stops growing in the fall, and is not apt to be quickened again till the spring. It prepares for winter like a Remontant, and has proved itself here more hardy than the majority of Remontants. In

that rigorous winter of 1855-6, it stood better than La Reine, Madame Laffay, Wm. Griffith, and others. This winter has been thus far very destructive to Teas and Noisettes, but the Dijon is unharmed. The bush recently described to you upon an east wall of the house, although it grew 75 feet the past year, exhibits no appearance of injury. Another bush upon a south wall is somewhat injured, and one upon a north wall is not injured in the least. The new rose America is somewhat injured in consequence of unusual activity late in the season, but where it was not over stimulated and ceased growing early, it is unharmed; showing a hardiness nearly equal to the Dijon. Solfatarre, Cloth of Gold, Augusta, Ophir, all of which were unharmed last winter, are now cut down close to the ground. All the Teas and Bengals and some of the Bourbons are also destroyed to within two or three inches of the earth; White Microphylla also is much injured, and Fortune's Yellow, a tender once bloomer, nearly killed out.

It is not amiss to mention here that Peach trees are much injured, many of them killed entirely. The winter has not been so very cold, but its vicissitudes have been such that vegetation must suffer sorely in this region.

IS SLOW GROWN TIMBER THE TOUGHEST?

BY W. ADAIR, ADRIAN, MICH.

I feel like taking exceptions to the editor's remark in the answers to correspondents, in the January number, when he says, "Usually, the more climate or soil favors a luxuriant vegetation, the more brittle any given wood becomes." Now this does not coincide with my experience. That a strong succulent growth is more likely to be injured by a severe winter, is true; but if a good hard and tough piece of timber is desired, select it with a large grain, viz: that which has made the most rapid growth; this is the rule always used by me, in selecting a spade, for instance, where the handle is full as important as the blade, the timber that is the most rapidly grown takes my money.

[Some years ago, in perusing some reports of the English Admiralty Office, we came across some accounts of experiments made by their orders, on the relative strength of slow and rapidly grown British Oak, for shipbuilding, and the result favored the former. Our ideas were formed on those experiments.]

CHARCOAL AS A BLANCH FOR CELERY.

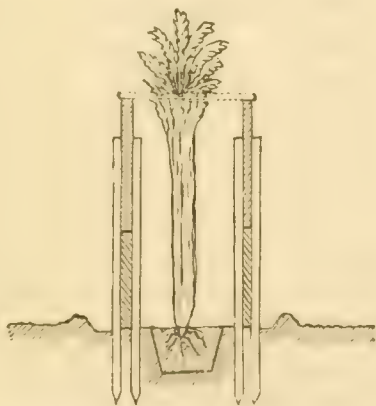
BY NOVICE, GERMANTOWN, PA.

Permit me to coin a noun, expressive of a new use to which I have lately put this useful substance.

As a *mulch*, its value is universally recognized.—As a *Blanch*, I find it superior to any material I have

ever tried, including earth, dry sand, saw dust, tan-bark, leaves, hay litter, &c. Its advantages are manifold; no slug or insect will harbor in it, it drains perfectly, retains the solar warmth without overheating the plant, absorbs all the ammoniacal gases arising from the application of liquid or other fertilizers, will not rust the stalk, is easily washed out of the celery when dug, and can be used many times over with little loss. By proper management, also, two rows of celery may be grown where one is by the old method.

Dig trenches 2 feet apart, about 8 inches wide, and 6 deep, and fill up to the level of the ground, with a rich compost of loam, well decomposed manure, and *lanners' hair refuse* (the latter being the best possible food for celery, and obtainable at the same price as stable offal) and set out the plants about 8 inches apart, in single rows. On either side the rows, about 6 inches distant, commencing at one end, drive two stakes, say 3 feet long, and 1 to 1½ inches square, 1 inch apart, to allow a board to slip in between them, and repeat the stakes, at intervals of 5 feet, or thereabouts, the entire length of your rows of plants; then, between the stakes, put boards 12 to 14 inches wide, and a piece of board at each end of the trench, connecting their ends. See figure 1.



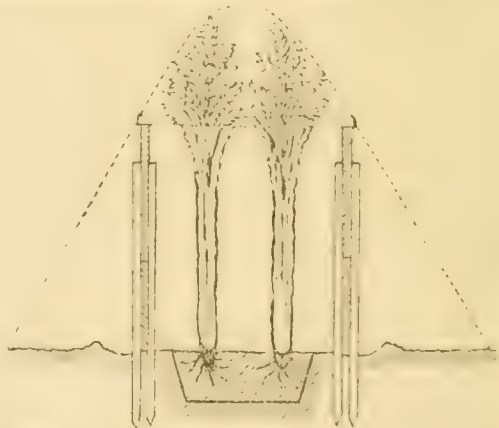
The young plants will need shading for a few days after transplanting, if the trenches run North and South,—if East and West they will not require it.

Draw the earth slightly away from the base of the boards, to form a *feeding trough*, into which pour liquid manure, frequently, during the growing season. When the leaf of the *central stalk* or *heart* of the plant shows itself above the board, fill in the whole space with coarsely pulverized charcoal (cinders from the smoke stack of locomotives, or the braise of old charcoal hearths,) holding the stalks snugly together in the left hand while filling in with the right.

After a few days, place a second set of boards, which

may be connected by cross pieces nailed on at intervals on the top of the first, and repeat the blanching as before. I have found two blanchings to be sufficient.

For winter celery the trenches should be dug 4 feet apart, 1½ feet wide, and the plants in two rows, 9 inches asunder, as indicated in figure 2.



They may be banked up in the usual way, first throwing a little litter on the top. Celery thus treated will keep perfectly; the loose texture of the charcoal preventing its becoming solid by the action of frost.

It may be objected that the above plan is more expensive than the traditional method, but it will be found productive of so much higher quality, longer blanched stalks, greater crispness and whiteness, and certain exemption from rust or decay, as fully to warrant the *apparent* increased outlay. If the boards are well coated with gas tar or good boiled linseed oil they will last many years; and the charcoal is worth, for general garden purposes, more than its cost, if not required again for blanching.

••••• DATURA ARBOREA.

BY A WORKING GARDENER, BROOKLYN, N. Y.

Mr. Editor:—Amongst all the plants I have ever grown, I think the *Datura* has still the strongest hold on my affections; new plants appear annually, many of them beautiful, and in many respects desirable, but for a combination of good qualities, give me this.

I think my mode of treatment is not common, and if you think so too, I should be pleased to see it in the *Monthly*.

The first week in May, I take a rich piece of garden ground, and turn out a young plant into it, choosing a conspicuous spot for it to show off its beauty to the best advantage. It soon begins to grow rapidly, and should be kept to one straight stem, all the side shoots being taken off as they come. In August, the

flowers begin to appear, and produce a succession of immense pure white and exceedingly fragrant flowers until frost. On the approach of cold weather, I procure a box, a soap or any other case will do, take up the plant, and I plant it therein, first divesting it of its head, all the leaves and succulent parts, then give it a good watering, and place it in a dry cellar where it will be secure from frost.

In May, the next year, I take it out and plant as in the former season, and carefully keep off all suckers, or any shoots except those which are to form the head.

When these head shoots have pushed about six inches, they are stopped off, which makes them still more bushy, and in the fall following, the flowers will be produced in the greatest abundance, and produce a most gorgeous effect. In the fall they are treated, and preserved in the cellar, as in the past season.

Treating it as a tree, and growing it in the open air, I consider the main points in which my practice differs from all others I have seen; and then I do not think it is generally known that it can be safely taken up and wintered in a cellar.

I have frequently heard gardeners speak of the difficulty of propagating this plant, the succulent stems rotting off so easily. My plan is, when I take up the plant in October, to save the succulent pieces, cut off the leaves, and lay the green stems by under the greenhouse stage, for two or three weeks, until they become partially withered. They are then planted in pots with common soil, and seldom miss. The plant is often called *Brugmansia suaveolens*, pray which is the most proper.

[*Datura arborea*: the genus *Brugmansia* does not essentially differ from *Datura*. We shall be glad to receive the similar favors promised on other plants. Like our correspondent, we think this old plant one of the most beautiful; and must say it deserves to be as common as an oleander or an orange.—ED.]

SHALLOW PLANTING VERSUS PLANTING RIGHT.

BY JOHN QUINN, TROY, N. Y.

Mr. Editor:—Having planted several thousand trees of all kinds in this country, and invariably made it a rule never to bury the collar below the surface, believing that every inch the collar was so buried was a notch in the wrong direction, and being entirely satisfied with my success; at the risk of being considered an "old fogey," I must differ, in the main, from Mr. Bright's mode of planting, for several reasons. First, its impracticability for planting on a large scale; secondly, while it would answer for very wet and marshy places, it is not the method for high, dry, and exposed situations, which latter comprise nine-tenths of the locations that American

gentlemen select for their rural residences now-a-days.

On the top of one of these bluffs, I fancy I see Mr. Bright practically working out his new theory. I would say, friend, those trees will be likely to dry up, mulch as heavily as you may; that mound you are raising around them, when it becomes solid, will have a tendency to cause every drop of rain that falls on it to run away from the roots; it is a concave surface we would want around a tree on this high ground and not a convex one, and they will certainly blow over, unless you persuade "Merriam" to intercede with "Old Boreas" to stay his hand for two or three years until they send down some tap roots into that cold sterile soil, of which you are so much in dread. Nature, of which you are happily so ardent an admirer, never forms mounds around what she plants; there is no analogy between a tree in the forest and one in an isolated position, the roots of the one are protected from excessive drought and other changes by the umbrageous covering overhead; those of the other are exposed to dry winds on all sides.

Your mulching will not enable you to place an isolated tree, or group of trees, on a par with their neighbors of the forest, unless you can carry the climate of the forest along with you—which, you are aware, is warmer in winter and cooler in summer than it is outside of it; if we were to take that mulching away, your whole theory would soon become a dissolving view. Don't you think, with the exception of the Hemlock Spruce, and other conifers, whose roots naturally run near the surface, that other forest trees—the Oak, Ash, Maple, Beech, Chestnut, etc.—send about an equal number of roots downwards? What these latter might lack in number, they certainly make up for in size; they are the anchors that enable the sturdy denizens of the forest to resist the iron blast of the storm king. It is useless to assert that these tap roots do not draw a vast amount of nutriment from the cold subsoil—if not, how do you account for their great size? The fact that a pear tree, that sends down a large amount of tap roots, invariably makes great annual growths of wood, is an illustration of this. Upon this point is centered the whole theory of root pruning. I boldly assert that the subsoil furnishes food for trees and plants as well as the loamy soil on the surface, and the first effort of all seedling plants is to send a tap root down there; they are but fulfilling a wise provision of Dame Nature in doing so. Upon this point hangs the whole theory of deep trenching, of which I am a warm advocate. Tap roots then, being favorable to vigorous growth, why should we be uneasy if forest trees that we want to grow as fast as possible, should be furnished with all of them that nature chooses to give?

With fruit trees, they are rather an evil than other-

wise, retarding as they do, to a certain extent, their fruit bearing properties. There are thousands of as fine specimen trees as those on the lawn of J. S. Lovering, on gentlemen's lawns all over this union, and they were not planted on the surface, nor in holes 4 inches deep, either. There they are, not on a mound, but their lower branches lying flat on the smooth, green turf. The whole tenor of your remarks would seem to infer that there is only two methods of planting: the one as deep as you would a post, and the other on the surface. I wish to show there is an intermediate one—that practised by all intelligent gardeners with unbounded success—the one I have been, in a feeble way, endeavoring to elucidate. The evil of deep planting is fast disappearing before the light of superior intelligence. Still it exists, and some men carry it with them into the greenhouse and conservatory, and impart a sickly hue to their Camellias, Heaths, New Holland Plants, Geraniums, Fuchsias, etc.,—the “hards” and the “softs,” by putting down their collars too deep in the soil; their is no doubt that by dint of mulching, staking and spending as much labor on one tree as you ought on ten, that you have succeeded, being always of Sam Patch's opinion, and believing, “if a man was regardless of expense, with all the light of science that surrounds him, he could make a tree grow on top of Bunker Hill Monument, only give him the fixins.”

[The evils arising from too deeply planting, are so many, while those arising from too shallow planting so seldom occur, that we feel a “sort of sorrow” when stern matters of fact weigh against the latter; and in view of our own communication to Mr. Downing, years ago, to which we referred, showing some facts in relation to such shallow planting in wet ground, could not help “cordially endorsing” Mr. Bright's article, so far as that went. Mr. Quinn was one of the most distinguished correspondents of Mr. Downing, and the present subject could not be in two abler hands.—ED.]

ALOES FOR INSECTS.

BY AN ENGLISH GARDENER, POTTSVILLE, PA.

Having read, in your valuable magazine, Dr. Uhler's translation of Mons. Raspail's article on the use of aloes as a preventive of the attacks of insects on plants and vegetables, I was forcibly struck with the remarks therein made, corroborating in part an idea common to some English gardeners.

In the raising specimen plants for exhibition, take for instance the Geranium, which, for prizes open to competitors from all parts of the kingdom, are generally confined to 8 inch pots. Now it is no easy matter to get a plant from 3 to 7 years old into that space, and be in a healthy condition. I have exhibited

plants full two feet in diameter, one mass of bloom in these pots.

To work out the problem, we used as a drainage bones, shells, and charcoal as experiments; but we found charcoal the best, and the reasons, as we supposed, were: First, Through carbonic acid gas being given out by the charcoal. Second, That it is of such a porous or sponge-like nature that it will contain, say twice its weight in water, besides considerable air. Third, Its well-known properties as a deodorizer. We were obliged to stimulate and feed our plants in these small pots with liquid manure up to a certain period, tending to cause an acidity or sourness to the soil after leaving it off; in this case all the plants drained with charcoal were the healthiest. Another evil we had to contend with, was, that after the pots became full of roots, or after the stimulus was left off, the plants were liable to be infested with Aphis. It not being desirable to fumigate, we concluded to pass charcoal through a solution of soot, lime, and liquid manure. The consequence was, that the plants resisted the attack of Aphis much better than before, unless in an instance or two where they were very much pot bound.

Charcoal drainage is also very good against worms. I would not recommend it for hard wooded plants; but for such as geraniums, cinerarias, calceolarias, etc., I have always found it preferable to potsherds.

I have experimented for the space of ten years with a result in favor of charcoal as a drainage for large plants.

Now this brings me to Dr. Uhler's translation. In place of soot, lime, etc., why not pass the charcoal through a solution of aloes: if it does not answer, it can do no harm.

As our friends may be giving some of their specimen plants their final shift for the season, if they try the experiment perhaps they will let us know the results through your useful magazine.

[We doubt whether charcoal furnishes much carbonic acid gas, except while being consumed. That it absorbs other gases however, is a well-known fact: as also it is equally well ascertained, that plants will take into their system certain matters, which will remain therein unchanged. We hoped some of our friends would have followed up Dr. Uhler's suggestions, believing that they would most probably result in success.—ED.]

ON TRITOMA UVARIA.

BY JOSEPH KILT, WEST CHESTER, PA.

Dear Sir: I was much surprised on reading an article in the November number of the *Horticulturist*, in regard to that beautiful fall-blooming plant, *Tritoma uvaria*, as it was quite contrary to my experience, and further, as I had seen it described in the catalogue of

one of our prominent nurserymen as a plant that does well in the winter. M. A. W., in the communication referred to, states that he caused the death of one by giving it a little *water*, and another by giving a little *soap-suds*.

Now my experience is as follows:—Last summer I lifted a large bed of tulips, which operation caused the soil to be well loosened up, the Tritomas were then planted in the centre, the balance of the bed I filled with *Pomponé Chrysanthemums*. The weather setting in quite dry directly afterwards, I mulched the bed, and gave it occasionally copious waterings: the Tritomas coming in for a full share. As the bed was near the dwelling, it received several soakings of soap-suds. The plants *throve* well under the treatment, and I was rewarded by a fine bloom of Tritomas in the fall. I saw them blooming in different parts of this *county* the past season, where I knew they received no especial care. I consider them a plant of easy cultivation.

HEDGES.

BY J. C. S.

Although many attempts are made every season to form a Hedge, how few do we really see that are successful! Most people think it is sufficient to stick in the plants to see them grow, when probably no department of planting requires more care to produce what is required. The difficulty is often increased by the fact that the hedge is wanted on the outside borders of a place, where the soil is left to take care of itself, very often where many trees overhang, whose roots interlace those of the plants, and often on a slope or behind a wall, where the drought easily penetrates.

Whenever a hedge is planted and whatever kind of plant is used, a trench at least 3 feet wide by 2 feet in depth, should be made, and where the soil is not of very good quality, filled in with rich earth or compost. The *beginning* is every thing, and no after treatment, however well applied, will produce one-half the good effect.

Many different species of plants have been tried and suggested for the purpose, but experience has proved that the following are the only kinds which can be relied upon in the Middle and Northern States, viz.: The Hemlock Spruce, Arborvitæ, Norway Spruce, Privet, Osage Orange, Honey Locust, Beech, and Hornbeam.

Where a place is occupied during winter as well as summer, an evergreen hedge is by far the most desirable, affording as it does a protection from cutting winds as well as giving an idea of warmth and comfort, whilst, for a mere summer residence, the fresh green of the deciduous plants have a more cheerful look.

Amongst the evergreens the Hemlock is the most deservedly popular. Its advantages are that it will grow under other larger trees where nothing else would succeed. It is always of a fine dark green, and never becomes browned by frost or sun, is of very dense growth and bears clipping well. Its principal drawback is, that it requires time to make a compact hedge, as large plants will either not grow, or if they live will never become thick at the bottom. The plants should be *nursery* grown. Many people, because they can go to the woods and take them at a trifling cost, imagine they are saving money; but wild hemlock trees are more difficult to transplant than probably any evergreen we have. The plants should be from 2 to 3 feet high, and may be put in at any time during spring or summer, but the best time is between the first of April and the first of June. After planting, mulch around the roots with dead leaves, and do not disturb the soil over the roots afterwards. The leaders should be cut out at the nursery the year before removing if practicable, as the plant will thereby gain a denser habit of growth at the bottom. As the plants grow they should be clipped on each side during the summer, keeping the top in a conical form, at least for the first 3 or 4 years, to give the undergrowth a chance which, when once established, will hold its own, and the top may then be trimmed to any desired shape, and will with care become almost compact enough to walk upon.

To those who have not the patience to wait, I would recommend the Norway Spruce; plants 4 to 8 feet high can be moved with certainty and without any detriment to the foliage. By taking plants, say 6 feet high, and cutting them down to 3 feet, a thick hedge of that height may be formed the first season. As Norway Spruce varies much in its habit, those of a close and compact growth should be selected. The color is not so good, especially when trimmed, as that of the Hemlock, but it has that great recommendation, especially to beginners, of making what is wanted without much delay. It may be objected that the cost of such a hedge is important, but this is not the fact, as a tree of 6 feet in height would have sufficient breadth to easily fill a space of at least 5 feet in length of the hedge, requiring but 20 plants to each 100 feet.

A hedge formed of alternate Hemlock and Norway Spruce has a good effect, from the contrast afforded by the variety, in color as well as in the shape of the foliage.

The American Arborvitæ has much to recommend it; it is easily transplanted at almost any season of the year and bears trimming well. It is cheaper than either the Hemlock or Norway Spruce, but will never form so dense a hedge, and the foliage becomes browned during winter. For a screen it is very use-

ful, as high plants can be removed with safety. The Siberian Arborvitæ would make a beautiful hedge in every respect, but it is expensive and difficult to obtain in large quantities, and rather slower in growth.

The Privet is a very hardy and quick growing plant, thriving well in soil where many other trees would be thrown away. In favorable situations near Philadelphia it is almost an evergreen, and as far north as New York it sheds its leaves very late in the season. It is easily propagated, is of a beautiful bright green during spring, becoming darker during summer and throws out an abundance of white fragrant blossoms. By putting in two year old plants, trimming well down for the first two years, a fine thick hedge may be obtained in four years from the time of planting. It thickens well at the bottom and will form a more compact screen than any other deciduous tree. The little care required to keep it in order, its very *natty* appearance, and its easy cultivation are great inducements for its more general use. To make a good fence the plants should be set in two rows and about three to the foot.

The Osage Orange is at present more popular than any other deciduous plant, probably on account of the protection afforded by its thorny branches. With careful treatment it forms a beautiful hedge; but how few out of the many annually planted do we see that present anything like an even and compact appearance? It is late in coming out in the spring, but during summer the color of the foliage is very fine; (bye the bye, why do we not see more of the Osage Orange used as standards for lawns? Few deciduous trees equal it in depth of color or make a handsomer growth.)

For a hedge the plants should be not less than two years' old, (if three so much the better), and should be selected of an equal size and strength, so that they may grow up equally together. The soil should be rich; the plants cut down to within three inches off the ground and kept perfectly clean and free from weeds. The second spring they should be cut down again to within one foot of the ground, and kept afterwards well shortened down till the desired shape and height is gradually obtained. From five to six years will, in most cases, be required to make a good hedge. The plants should be put in in the spring just before budding, as they are very liable to be heaved out by frost if planted in the fall. Where ground mice prevail, some other plant should be chosen, as they are very fond of the bark of the roots, and I have seen three-fourths of a season's planting thus destroyed.

The Honey Locust is beautiful as to foliage, is a strong and hardy grower, and makes a compact and thick screen; it has also strong thorns; it should be treated in the same manner as the Osage Orange.

The Beech and Hornbeam are but little used; both (especially the latter) requiring a number of years to make a good hedge. When once obtained, however, they are as beautiful as any other deciduous plant, and easily kept in order; neither of them growing so luxuriantly as either of the above named plants. The trees should be planted when from 18 inches to 2 feet in height, and topped down, or they will be "scraggy" at the bottom.

A good effect is obtained by planting Climbing Roses, Clematis, Honeysuckles, etc., amongst the evergreen hedges, giving them during summer a more lively and cheerful appearance, especially as they break up the formal line of a hedge.

The Cedar makes a good hedge, but is hardly worth mentioning as the difficulty of transplanting and its slow growth militate against its general use.

The Berberis I have never seen used for hedges, but believe it would repay any person trying it, as it thickens well, is very hardy and strong in growth; would form a good protection even against pigs, and its many red berries would much enhance its beauty.

The Deciduous Cypress would, I believe, make an easily grown and handsome hedge.

The Lilac makes a good screen, affording a beautiful show with its brilliant and sweet-scented blossoms but is not compact enough for a hedge, and all its beauty would be done away with by the necessary pruning to keep it low.

Many other plants have been tried or suggested; but I have seen none other than those named which will produce a really desirable hedge. The Hawthorn, or Quick Set, as all those know who have seen the hedge-rows of England will testify, forms the finest of hedges, but even if our climate would allow of its growth, few would be found who would bestow upon it the care necessary to bring it to perfection. The Yew makes as good a hedge in England as the Hemlock does with us, but our droughts in summer and frosts in winter will not allow us to enjoy it.

Fences are necessary evils, and there are few instances, even with a good hedge, where the boundaries of a place would not need them for protection; but hedges can and should be planted behind the fences, and could be substituted much oftener than they are for interior divisions, especially to separate the kitchen garden from the lawn. The taste for country living, and all the pleasures to be derived from planting and growing trees is increasing with us; and I believe that all will agree with me that there can be no comparison between the grounds enclosed by a mere fence, however handsome, and those surrounded by a hedge of whatever plant it may be composed.

SEQUOIA VERSUS WASHINGTONIA.

BY L.

Mr. Editor:—Your readers have all heard of the great trees of California; those remarkable productions which for size and magnificence are unequalled by any others known:—One of these monsters measures 93 feet in circumference, and 300 feet in height. Another, prostrated, measured 40 feet in circumference, 300 feet from the butt and must have been between 450 and 500 feet long.

For the great tree, "big" tree, many call it incorrectly, the names of Washingtonia and Wellingtonia have been proposed; but it has been found to belong to the genus *Sequoia*, which contain the celebrated Redwood of California. Much has been written concerning the age of these giants—one writer making them of considerable size at the time of Moses. A section of the trunk of the tree first noted above, which was bored down with pump augers and upset with battering rams and wedges, was carefully examined by Prof. Torrey, who counted all the rings, and could discover but about eleven hundred. Still, they are sufficiently old to command respect; and should they be preserved to future ages will continue most wonderful representatives of the vegetable kingdom.

Whence is the name *Sequoia* derived? Has it been intentionally applied, or is it an accident that this American tree commemorates the name of an American, of whom, perhaps, few white men have ever heard. Away with the misnomers Washingtonia and Wellingtonia, and all honor to See-quah-yah, the American Cadmus, the inventor of the Cherokee Alphabet. Surely if the genus were not named in his honor, it should be so now. History does not furnish forth a parallel to this untaught, this self-taught Indian, who struck out, as it were, at a blow, a perfect system of written speech; and these unrivalled trees may fitly hand him up to fame.

See-quah-yah, (*Sequoia*) or George Guess, the inventor of the Cherokee Alphabet, was a half breed, his father being a white and his mother a Cherokee. He was, at the time of the invention, not only unacquainted with letters, but entirely ignorant of any other language but his own. His invention appears the more remarkable since he received no instruction from without but by the unaided force of his reasoning and inventive powers, placed in the hands of his tribe the instrument by which they have advanced beyond all other Indians to a respectable degree of civilization. He appears to have possessed a reputation for talent when very young, and was especially expert in the manufacture of ornaments in silver, which were the admiration of his people. As an artist in colors he was excellent, drawing from nature with surprising accuracy. A man of extra-

ordinary shrewdness, of diversified talent: passing from metaphysical and philosophical investigations to mechanical occupation with the greatest ease.

He early understood and felt the advantages the white man had long enjoyed, of having the accumulation of knowledge from generation to generation, stored up by means of written language; while the Red man could transmit his thoughts and discoveries by uncertain tradition alone. To remedy this difficulty, and to place in the hands of his people the instrument of progress, was one of the great aims of his study; one which he accomplished beyond that of any other who ever existed in a rude state of nature.

The story of his invention is told as follows:—*Sequoia* was present when a letter which had been found upon a prisoner was wrongly read by him to the Indians. Reflecting on the power of the white man to impress his thoughts upon paper, the question arose whether the mysterious gift of the *talking leaf* was derived directly from the Great Spirit or the discovery of the white man himself. Most of his companions were of the former opinion, while he strenuously maintained the latter.

At one of the council fires, at which the recollection of their fellow tribes who had perished as if blasted by the touch of civilization; the retrospect of their former extent, compared with the present limits of Indian power, filled the chiefs with gloomy forebodings, and disposed them to envy the influence of that civilization which rendered the white man immeasurably their superior. *Sequoia* arose from his seat and pointing to a book told them that *there* lay the secret of the white man's power; that it was by recording his thoughts and observations he had been enabled to effect the wonders they witnessed; and that if the Indians could but invent a method of writing their language, their inferiority would no longer be felt.

Having become disabled by lameness from partaking of the excitements of war and the chase, opportunity presented during his confinement for deep reflection upon the power of speaking by letters; the very name of which was not to be found in his language. From the cries of wild beasts, the talents of the mocking bird, the voice of his children and companions, he knew that feelings and passions were conveyed by different sounds from one intelligent being to another. He at first attempted to represent these by pictorial signs, but finding them to multiply infinitely he abandoned the method. He possessed a stamp which had been made for him by a white man, with which he marked his work. He knew that the white man could express himself by signs; and he had a fragment of a book, a sealed book to him, for he did know how these signs expressed the sound in English. His next effort was to find a sign

for every sound in the Cherokee language, but these became too numerous. At length his way appeared more clear. He found that many sounds were variously combined; that words could be divided into syllables; and that these same syllables aided in forming many words; and that his language was made up of but a few sounds variously arranged. Could he give a sign for each of these sounds, his end would be attained. He was living apart from his people, absorbed in his labor, seeing but one attendant who supplied him with food. He had reached the right track and made rapid advances and already believed he had completed his labors.

His daughter, however, possessed a more acute ear, and on teaching her the new alphabet, she detected differences which he had not perceived, and pointed out compound sounds he had supposed to be simple. By these joint analysis the language was reduced to eighty-five monosyllables, for each of which he had assigned a separate letter. This invention was made in 1821. Considerable improvement was afterwards made in the formation of the letters. In 1827 a fount of type was cast and the first number of a paper called the *Cherokee Phoenix* issued.

The paper was originally printed partly in Cherokee and partly in English, and I am not aware that the plan has been changed. The alphabet, which is before me, is composed mainly of English Capitals, Roman and Italian, small letters advanced to the dignity of capitals, Arabic numerals, some resembling the Greek letters, the remainder inventions and combinations of English, and new forms bearing no analogy to any ancient language, but allied to the inventions of the phonographer.

Like all other inventors, See-quah-yah was not permitted to pursue his investigations undisturbed. Alone, secluded from his fellows, who passed his wigwam without entering it, he persevered amid ridicule and the imputation of witchcraft and mystery. Without the knowledge of the pen as an instrument, he made his characters on a piece of bark with a knife or nail. Afterwards he procured pen and paper from an Indian trader. The ink he supplied from some bark whose coloring properties he had previously known. After seeing the construction of a pen he learned to make one, but the first being without a slit, his own sagacity soon removed the difficulty.

He was now prepared to bring his invention before the assembled wisdom of his nation, and demonstrate that he had indeed made a discovery with which no supernatural agency was concerned. His daughter, as yet his only pupil, was ordered to go beyond hearing distance, while he requested his friends to name a word or sentiment which he wrote out. She was then called in and read it to them. The father then retired, and the daughter wrote with similar success.

The Indians were wonder struck, but not satisfied. "I have learned to talk on paper, and hereafter the Indian may do what the white man has done," said Sequoia, "I will prove it to your satisfaction." He proposed to select several of the brightest young men of the tribe, to whom he might communicate the mystery. This was agreed to, not without a lurking suspicion of necromancy aiding the business. The tribe watched the youth for several months and when they offered themselves for examination, the feelings of all were wrought up to the highest pitch. The boys were separated from their master and from each other and watched with great care. The untaught directed what the master and pupils should write to each other, and the tests were varied so as to prove their accuracy and freedom from any collusion except a common knowledge of the signs invented by Sequoia, and to firmly fix their faith. See-quah-yah became at once distinguished. A great feast was prepared, in which he was made conspicuous. He became at once, school-master, professor, philosopher and chief. His countrymen were proud of his talents, and held him in reverence as one favored by the Great Spirit. The council of the nation voted him a money reward which he declined. A silver medal was obtained for him by the delegation to Washington City, in 1824, but what inscription it contained I have not learned.

From this hour the progress of the Cherokees has been onward and upward. Their system of government is republican, their religion the Christian; bringing the attendant blessings in their train—public schools and seminaries of high grades, for both sexes, are in operation. Bible societies and agricultural associations prosper, and under the wise government of their chief, John Ross, every stimulus is given to aid in developing the resources of the country, and a wise improvement of the manifold social, intellectual and political privileges they are permitted to enjoy, and by which they have made so wonderful a progress in the pursuits and knowledge of civilized life.

Honor to the inventor, to the man who pioneered the path of civilization and enlightenment, and sowed the seeds of innumerable blessings, to be reaped by millions unborn. Let the name of See-quah-yah, whose genius towers aloft above that of every other native of this inventive land, live forever in the majesty of the denizens of the primeval forest that bear his name in the Sequoia.

[Endlicher does not give, in his *Synopsis Coniferae*, where he names and describes the genus, any reason for his choice of the name, and as he was no less noted for his philological knowledge than his botanical, it is not at all unlikely that he knew Sequoia's history, and that L. has hit on the secret.

The whole history is one of the most interesting

we have had the pleasure of recording in our columns. Our intelligent correspondent, himself having family relationship with the Cherokees, renders the history the more reliable. With regard to *Wellingtonia*, we believe all European botanists have united in considering that Dr. Lindley was mistaken in dividing it from *Sequoia*, and no botanist has described it as *Washingtonia*. It is gratifying to the national feeling that *Sequoia* stands in the pleasant association *L.* has found for it.—ED.]

EXPERIENCE OF A FRUIT GROWER.

BY A NEW YORK FRUIT GROWER.

No. 1.—GRAPES.

Mr. Editor:—No department of fruit culture is at present exciting more interest in all parts of our country, North, South, East and West, than the grape, and every article that appears in the public prints pertaining to that subject is eagerly sought after and read by the people; and in this section, grape growing for the New York market is certainly the most profitable of all the branches of fruit culture. If we get a crop of peaches or apples every other year, we think we are doing pretty well, but the grape grower can, with proper care, secure a good crop annually, which will find a ready sale in the market, at prices ranging from \$200 to \$300 per ton.

In various sections of the country, grapes of wonderful excellence, productiveness, earliness and hardy enough to grow in the most Northern section of our country, are discovered and introduced to the public as candidates for special favor. Amongst this multitude of varieties there are indeed some of intrinsic worth, some that will bear the test of time, but the great mass are of little value and will never become popular with the grape growers of our country. Some are too sour, some too foxy and some too late to be of any value to the market grower.

Again, others are of the best quality, but unfortunately, in most cases, where very great excellence is attained, it is at the sacrifice of the wood-producing principle, and most of the richest and highest flavored sorts that have been brought to public notice are either wholly or in part of foreign origin; and every one familiar with the history of the grape in America, knows that such never will be of any value in the vineyard, but may in the hands of the "amateur:" one who has but a few pet plants to care for, can well afford to spend his time nursing them and fighting the mildew in order to obtain such luscious fruit. Again, it is a fact well known to men of experience, that the mildew is held in check with far less difficulty where there are only a few specimens, than where there is a vineyard or very large collection of vines.

No prudent man will, however, plant extensively of any variety unless it be a hardy and thrifty grower,

not subject to mildew, and fruit in quality as good as the *Isabella*. Unless these qualities are combined, no one can expect to make grape growing profitable, no matter how high it sells in the market.

Isabella.—This popular variety is extensively grown on the Hudson, and more tons of it are annually sold in the New York market than of all others put together. It is a good grower, and when properly planted and pruned, it does not suffer from the mildew either in the leaf or fruit in this locality. It is so amazingly productive that when not pruned close enough it is apt to set twice as much fruit as it can mature, and the vine will yield up all her strength in order to mature the fruit; which, however, in such cases, does not ripen or become sweet if it remains on the vine till winter, and the vine, in such case, will almost invariably be found in a bad condition for either standing the winter or fruiting the next season. The wood will be found soft and immature, with scarcely a bud well ripened, and such vines usually require a year or two of good treatment to restore them to their former fruitful condition.

Hence the importance of pruning with care and skill, and he who is master of the business will seldom leave more bearing wood than the strength of the vine will admit of, but if he should he will before the fruit is half grown thin it so the vine will suffer no injury. No grape that we cultivate is so prone to overbear as the *Isabella*, and every one who grows this grape in a rich soil should be careful to remove superfluous shoots from the old wood and all the the spurs from the bearing branches and only one fruit-bearing shoot should be suffered to grow from a bud. If these directions are followed, the result will be fine large clusters which will ripen by the first of October, with as much certainty as apples or pears. We generally commence picking and sending to market about the middle of September, but to attain its highest excellence it should hang on the vine long after it appears to be ripe, which it can and suffer nothing from birds, insects or high winds; nothing but pilfering boys and men will disturb it, and I am glad to say that this practice is far less common than formerly, and fruit is beginning to be considered as private property.

[We have from the same correspondent, his experience with the *Diana* and other well known grapes for our next number.—ED.]

FROM "EGYPT."

BY J. M. SMITH, GREENVILLE, ILL.

Friend Meehan:—If the winter continues as it commenced, we shall have plenty of sleighing and but little else. Mercury down to 0°, and below not unfrequently. So, if you reciprocate, please add—"a warm Spring to thaw out."

So far, we have had one of the steadiest cold Decembers I ever remember of in this part of Illinois. With the exception of the snow, however, it has been very dry, and that is far better than mud. Yet, I fear many will lose fruit trees, vines, etc., who have been dreaming of "peaches and cream, voluptuous bunches of grapes, etc." Time will tell.

We have about the finest country in the United States, which I consider equivalent to saying—"the finest in the world." *Egypt*,—that is our Egypt, has been noted for its fine climate, big corn, superior wheat, excellent fruit, beautiful prairies, splendid timber, immense beds of coal, hospitable inhabitants, etc., etc., ever since (and long before) it obtained the name of Egypt. Perhaps I might add to the list an *off-set* or two, but I will not just now. Egypt is a great land; suppose I give you an outline of its geography.

Egypt is bounded on the North by Alton and Terra Haute Railroad, East by the Wabash River, South by the Ohio, West by the Mississippi. The principal streams running through the interior are Kaskaskia, Embarras, Little Wabash, Big Muddy, Cahokia and Shoal Creek. The principal interior Railroads are, Illinois Central, Ohio and Mississippi, Wabash Valley, beside several smaller ones. About one-half of the surface is prairie, the other half timber. Products—Corn, Wheat, Cattle, Hogs, Hay, Fruit, etc. Will that do?

But little has been done yet towards ornamenting and beautifying our pleasant country. Too much emphasis is laid on the words *corn and stock*; yet when one farmer begins to display a little taste in ornamenting his grounds, others follow suit. But a number of farmers have been "bit" by pedlars of nursery stock, (and the country is full of them,) causing many to be a little backward in "throwing away money" during the hard times. But whenever times get a little *easier*, the contagion for ornamenting homes, and fruit tree planting will spread as far as the atmosphere will carry the perfume; and we shall expect to have a change from "hog and hominy" to somewhat of a verge upon refinement. But until those swarms of swindlers, nursery stock peddlars, stop their operations, many will fear to look at anything raised in a nursery. I know one farmer's wife who purchased, at a high rate, several roots of *Angelica* for fine varieties of Chinese *Pæonia*, and who purchased some twenty grape vines, at a high price, for three of the new varieties; (she did not remember the names,) and all proved, on fruiting last fall, to be our commonest grape—*Catawba*. This is a good grape enough, but that does not make it prove any less a swindle. What one *buys* he wants genuine.

[We are much obliged to our kind friend. Egypt has an enviable name horticulturally, and we have

been all-anxious to know something about so prosperous a spot. There were some criticisms of another article appended to Mr. S.'s communication, which we have not inserted, as the author himself had previously corrected himself in our last number.—Ed.]

DRAIN TILES.

BY "NOVICE."

Friend Meehan:—I send you herewith, samples of drain tile and brick of miniature size, and of the manipulated clay from which they were made by the working model of the new machine invented by S. C. Salisbury, on exhibition at the office of the "*Working Farmer*," corner of Nassau and Beekman Sts., N. Y. From the December number of this paper I extract the subjoined article. The expense of making two-inch drain tile in a one-horse machine is stated by the inventor as follows:

"One Man and one horse, one day,	\$2 00
Two boys,	" " 1 00
Digging Clay,	- - - 50
Wood for burning,	- - - 50
Labor at Kiln,	- - - 50

Product, 3000 feet at \$1.50, - \$4 50."

Allow for interest, repairs and other contingencies, one-third, and they can still be produced for \$2.00 per thousand feet, about one-sixth the usual price. This supposes them to be made by the consumer himself on land where clay can be had for the digging.

The remarkably smooth and even surface of the bore prevents the accumulation of obstructions which sometimes occur in the ordinary rough tiles; they are also much *straighter*, which is a great desideratum, especially on land where the natural fall is very slight.

All kinds of solid and hollow bricks are made in this machine, and of a quality entirely unequalled. We now only need an economical method of digging the trenches to render underdraining so cheap that no intelligent man can afford to cultivate undrained land.

"NOVICE."

[We are very much obliged by the specimens forwarded us, which show the process they have passed through, to be of a complete character. It is impossible for owners of land to be too fully impressed with the advantages of draining, and we look on Mr. S.'s invention, judging from the specimens and the articles before us, as one of the most important of any brought out for some time past. We give the article from the *Working Farmer*, below.—Ed.]

"DRAIN TILES.

It is very vexatious to American farmers to see in English journals that drain tiles of two inches di-

ameter are there sold at four dollars per thousand, while we here, have to pay fourteen dollars per thousand for similar tiles, and to this is to be added the digging of the drains by workmen, at one dollar per day.

We are glad to be able to announce that the machine invented by Mr. S. C. Salisbury, for the making of drain tile, is now completed, and a working model may be seen in our office. This machine will turn out ten thousand tiles a day, by the application of sufficient power, say that of two horses, while a smaller number may be made by hand labor. The tile is finished with a surface as smooth as a most finished piece of porcelain, and is made from clay as it leaves the clay bank, without the use of a pug mill, dolly tub, or other preparatory machine; the principle may be thus understood:—We have all seen a glazier take a dry lump of putty that would break if pressed and crumble instead of being adhesive, and by rolling and manipulating this mass for a while, it becomes plastic, so that he can glaze a sheet of glass before the putty can assume the granulated form; and when once set, it is much stronger than freshly made putty. The ancients made their mortar by the admixture of lime and sand, a year before its use, and buried it in a pit. When required for use, it was taken from this pit, beaten with pieces of wood, shaped like a cleaver on a mixing board, continually drawn together and again beat out into a sheet, until the mass became plastic; and then when put between bricks, it would set harder than the bricks themselves, as every old Roman wall clearly proves. Now these facts are true in a degree with clay. Mr. Salisbury's machine receives the clay in a hopper, it is passed between steel-surfaced rollers, forming a sheet which continually rendered thinner and thinner by continued rolling, until it finds its way to the mouth of the form intended to shape the tile; and while in this plastic condition it is forced through, presenting an outer and inner surface finely polished, and of the form required. Its moisture is so slight that it does not alter its figure while drying, and the amount of water is not so great but that it may be burnt by any farmer, either with brush or coal.

The machine is also capable of making brick, and with these the kiln may be built before the brick are burned, so that the first filling of tile and fuel will not only burn the tile, but render the kiln a permanent fixture, capable of being continuously used for burning the tile. The cost of this machine, which we hope soon to see on sale, will be about \$100, and in every particular it appears to be complete. With this contrivance, tile may be made at a cost not to exceed three dollars per thousand, and but few neighborhoods are so devoid of clays as not to furnish the necessary raw material. In the making of drain

pipes it is not necessary that the clay should be of an extraordinary quality, for as they are intended to permit the water to percolate through them, a fair amount of sand is no detriment in tile making."

GREENHOUSE PLANTS IN SUMMER.

BY F. H. L., MORRISANIA, N. Y.

Much time and labor is wasted in the treatment of greenhouse plants in summer. I send you a list of the more commonly found kinds, which will bear turning out of pots in summer, with a view of repotting to flower them well in winter:

Azalea indica—Layering them makes the plant bushy and the layers good specimens; Bouvardia leiantha and others; Burchellia capensis; Calceolaria (the shrubby kinds); Citrus sinensis and others; Cuphea; Daphne; Epacris; Erica—had them on fresh manured ground and did very well, only plenty light and air required. Eugenia, Myrtle, Nerium, Pittosporum, in fact all these hardy greenhouse shrubs when they are potbound before planting out. Pentas carneas; Polygala, Monthly carnations, Pomp. Chrysanth.—pinching in well helps them; Aphelandra; Asclepias; Begonia—all for flowering, as fuchsoides, incarnata, sanguinea, Prestonensis and others. Euphorbia jaquiniflora, Poinsettia, Hibiscus, Inga, Justicia, Geisomeria, Linum trygynium, Cactæ, Russellia juncea, Habrothamnus, Primula sinensis, Calla aethiopica, Eranthemum nervosum, Veronica, Brugmansia, these I have tried, fully exposed to sun and air, and proved better than the same kept in pots. In a shady situation the family of Ferns does well. Heliotropium roses, Salvia, Ageratum, and Scarlet Geranium I keep half starved in pots through summer and repot in August, in strong soil, for winter blooming. Many others do well, but flower too late.

[We can corroborate our correspondents remarks, as we turn out most of our plants in summer. We have often wondered that the practice was not more common.—ED.]

SHALLOW PLANTING OF TREES.

BY J. W. JONES, CHARLESTON, S. C.

It is hardly possible, now-a-days, to take up a book on gardening without finding the author continually referring to nature and her mode of doing things as the *sine qua non* of perfection. She is held up as a mirror in which the gardener or amateur may see the true mode of performing his multifarious operations. She is held up as a perpetual example and guide, from whose dictum there is no appeal. Her laws are like those of the Medes and Persians, unchangeable. The poor dame is dragged in by the ears to stand Godmother to all the bantlings that the busy brains of our numerous horticultural writers bring forth. Let it only be proved, or rather supposed that

such or such a process is founded upon a natural law, or upon what we conceive to be a natural law, and the writer imagines his argument to be irrefutable. But, before we "quote nature," we ought to be quite sure that we understand her; that we have read her book aright. I fear we know very little of her operations; we conjecture or guess at a great deal, but the science of vegetable physiology is yet in its merest infancy, and the subject of vegetable nutrition, notwithstanding all the light that has been thrown upon it, is still in comparative darkness.

Limley, in his great work "The Theory of Horticulture," diffused much useful and valuable information through the gardening world; valuable, not so much from the theories he advanced being incontrovertible; but because he taught the gardener to think; he taught him the reason why any particular operation, done in a particular manner, would succeed better than when done in a contrary manner. He showed that gardening was not a mere mechanical pursuit, to be carried on by the aid of certain old laws and axioms as guides; but an art, and a fine art, whose chief operations were based upon, guided and assisted by a knowledge of certain laws of vegetable economy.

It has been the fashion then, these twenty years, little as we really know of the matter, to take what we call nature for our guide in gardening operations. We have drawn certain conclusions from our observations of her manner of doing things; but are we quite sure that our premises are right? We do not imagine that we have penetrated all nature's secrets; we see the results rather than the causes, and are apt, I fear, to confound the two. Nature and experience are sometimes in apparent conflict—our theory and our practice do not agree; we sometimes do things in gardening, and with success, too, that are quite contrary to the teachings of nature or theory. Chemists tell us that the substance of a plant can be reduced to certain well-known elements; and that the tree must derive such elements from the earth or air; and therefore, it must be advantageous to place such substances as are naturally found in the body of a tree, within reach of its roots or leaves, as a supply of food. Yet what do we really know of those nice chemical changes and combinations continually going on in the body of a tree? We cannot explain how one plant extracts such starch or sugar, another resin, another opium, another indigo—all from out of the same plot of ground. We can analyze the products, and separate such component part, and "find out what it is made of;" we may, in some cases, recombine, but we cannot, as nature does, draw from the soil or air for ourselves, that which a tree seems to do so easily and so surely. Will it ever come to pass, I wonder, that chemists shall be able, easily and cheaply, to extract our food directly from soil or air as plants do?

If they can, as they profess, feed plants, why in the world cannot they feed us of the animal creation? Are we forever to be dependent upon the vegetable creation to prepare our food for us? I think the preparation, or rather formation of food directly from mother earth may, *sometime*, be arrived at; but the chemists have to find out a few more "elements" first.

I have been led to these irrelevant remarks from reading an article in your last January number, on the shallow planting of trees, by Mr. William Bright, of Philadelphia. Superficially viewed, the reasons given for the practice of shallow planting are plausible enough. I have nothing to say against the greater part of his article: it is only his reasoning and conclusions I cannot agree with.

If I have not mistaken, Loudon was the first to advocate shallow planting, or rather, planting on mounds—which is quite a different thing. If that colossal book-maker had had all the trees to pay for that died under the treatment he recommended, he would have had need of a dozen fortunes. Like your correspondent Mr. Bright, Loudon based his practice upon nature. Because, forsooth, Loudon had observed that all trees, of any size, appeared to stand on a mound or slight elevation; *ergo*, all young trees ought to be stuck on a hillock already formed for them. It is a wonder that such an acute observer never discovered that the gradual thickening of the roots, and consequent upheaval of the soil, caused the mound-like appearance.

I well remember that a sort of *furor* existed in England for planting everything high and dry after Loudon's remarks appeared. To say nothing of young forest trees, even poor little plants in pots were elevated on miniature hillocks—much to their discomfort, no doubt. All the time of which I speak, a plantation of young forest trees resembled nothing so much as a collection of ant or mole hills with a stick thrust into the middle of each.

Mr. Bright's trees do well enough, I have no doubt; and so they ought after such a world of trouble. To save the lives of his trees he necessarily mulches the mounds heavily for the first two years; *id est*, until the roots have descended to the general level of the soil, and have become independent of the mounds. I must confess I cannot see why they should not have been planted on the ground level in the first instance as being, after all, the more natural position of the tree.

Mr. Bright is not satisfied with nature in one respect; for he does not like her mode of arranging the roots of trees, that is, so far as to their taking a downward direction. Mr. B. seemed to expect that if he once places the roots in a horizontal position they must continue to extend in that direction; though every-day experience must have proved to him the

contrary. All trees, except perhaps when growing in very wet soil, naturally form perpendicular as well as horizontal roots; and if the former be cut off, will try to remedy the evil. It is not to be supposed that trees form tap roots to their own prejudice. It is to be supposed that these roots descend down deeply into the earth for some special purpose. It may, in some cases, be of use to deprive a tree of such roots, where fruitfulness or an early and perfect maturity of the wood, rather than a vigorous growth is desired; but, as a rule, it may, I think, be safely stated that tap roots are essential to the vigorous growth and durability of a tree. Moisture has a great deal to do with the direction of roots. If we could measure the quantity of water evaporated from the leaves of a large tree in the course of a single day, we should be better able to appreciate the value of the tap roots.

In an uncongenial soil, to plant trees on mounds with the expectation of thereby permanently correcting the evil is evidently fallacious, for the roots must eventually extend into, and be entirely dependent on the surrounding soil; and if that soil be bad, suffer just as much as if not planted on a mound; the mound may defer, but cannot cure the evil. If the soil be good, I do not see the utility of elevating the plant above the ordinary ground level.

Mr. Bright's chief, and so far as I see, his only reason for shallow planting is because it is "nature's own method" of growing trees, and experience has proved it to him *the best ever devised by man*. Now, nature does not, when the plants require a mound use a heavy mulching of leaf mould or litter to keep her nurselings alive for two years. She plants on the surface, even or uneven, and one of her first operations is to send down a root, and as long as that root finds itself in a suitable medium it continues to extend downward. I have probed with a stick the hollow root of a Carolina Pine tree to the depth of twelve feet or more, and the root was then more than a foot in diameter. I have seen beautiful examples of nature's own planting on some of our bluffs where the soil has been washed away, and left the tap roots of trees exposed to the depth of fifteen feet, and thick roots at that depth, so that the tree seemed to have nearly as much wood below as above ground.

Now, I might argue that what is true of a pine tree in the light sandy soils of Carolina must be true of a pine tree in the heavy clays of Pennsylvania, yet, such an argument would be evidently absurd. Taking nature for my guide, I might assert that, as our trees sent down their roots to an immense depth—to the water line in fact, be it two or ten feet,—I might assert that it would be to the manifest advantage of the tree to sink a well where the tree was to be planted, and fill it up with good soil to encourage the development of the tap roots, which would be another absurdity.

Gardeners generally appear to have a particular spite against tap roots, as if the gardeners knew better than the trees themselves what is good for them. Not content with nature's operations, they seek to improve upon them; yet, by a singular crookedness in reasoning, stultify a self-evident law by depriving a tree of its main stay—a tap root.

No one will dispute Mr. Bright's conclusion, that a tree set comfortably on a mound of good earth and warmly mulched with leaf mould, is in a better condition to live and thrive than a tree plunged deeply down into a cold, dank cistern of a hole. But the latter is not the proper mode of planting a tree. If Mr. B. wrote his article merely to prove that trees planted as he directs, would succeed better than when planted in this horrible "dank hole," I have no doubt of his superior success. The question is, I think, whether his trees will succeed better planted as he directs, than if properly planted on a level surface—the same pains, the same amount of labor being expended in each case. If he proves less than that, he proves nothing.

As a matter of taste, I should object decidedly to having a fine lawn disfigured by those formal rounded mounds at the base of each tree, giving a peurle and artificial effect, suggestive of ancient circular flower beds, that had been indiscreetly planted with a large growing tree in the centre of each, which tree had finally overpowered the more humble flowers and become sole possessor of the land.

These remarks of mine are not intended to afford aid and comfort to that large class of bunglers who thrust a tree into a hole anyhow, though, I may believe, that people sometimes give themselves a great deal of unnecessary trouble in planting a tree; yet, I have no sympathy with those who, as Downing says, plant a tree as they would a post.

HARDY HERBACEOUS PLANTS.

A Boston Correspondent kindly furnishes us with an additional list to those already given by Horticola and ourselves in our last volume.

"*Homeroicallis flava*, *Ranunculus aconitifolius*, *Pulmonaria virginica*, *Lychnis chalcedonica flore pleno*, *Spiraea venusta*, *Spiraea Japonica*, *Corydalis aurea*, *Orobis vernus*, *Saxifraga cordifolia*, *Saxifraga Crassifolia*, *Achillea rubra* (new,) *Geranium Lancastriense* (sometimes, but erroneously called *Sanguinea*—Do you know a herbaceous *Geranium* as good as this?) *Geranium macrorrhosum*, *Arabis albidia*, *Sedum hybridum*, *Phlox repens* (syn. *stoloniflora*), *Dicentra eximia* (syn. c. *formosa*), *Coronilla varia*, *Uvularia grandiflora* (deep color, rose red,) *Rudbeckia purpurea*, *Funkia Japonica*, *Pardanthus chinensis*, *Symphytum asperum*, *Symphytum Bohanicum*, *Adlumia cirrhosa*, *Potentilla formosa*, *Potentilla Hopwood-*

iana, *Polygonatum multiflorum*, *Epilobium Angustifolium album*, *Ranunculus acris flore pleno*, *Ranunculus repens flore pleno*, *Lamium rugosum*, *Trollius Asiaticus*, *Lilium aurantiacum*, *Lilium chalcedonicum rubrum*, *Lilium superbum*, *Lilium Philadelphicum*, *Lilium lancifolium album*, *Lilium lancifolium speciosum*, *Astrantia major*, *Clematis flammula*, *Liatris scariosa*, *Sanguinaria canadensis*, *Dianthus barbatus*, *Dianthus incarnatus* (rich color,) *Wahlenbergia grandiflora*, *Helianthus multiflorus*, *Datura meteloides* (roots live with me in a south border, fine,) *Iconopsis Cambrica*, *Anthemis nobilis flore pleno*, *Plemonium cæruleum*, *Plemonium album*.

Hibiscus moenchætris (the white, crimson centre,) *Papaver Orientalis*, *Lychnis flos cuculi*, *Lychnis flos cuculi alba*, *Erythronium dens canis alba* (handsome mottled leaf,) *Tulipa sylvestris*, *Allium molle*, *Agrostemma coronaria*, *Veronica elegans*, *Lilium longiflorum*, *Viola odorata alba pleno*, *Viola odorata cœrulea*, *Corydalis glauca*, *Actæa rubra*, *Actæa alba*, *Pulmonaria officinalis*, *Lilium canadense*, *Orobis Niger*, *Spiræa aruncus*, *Oenothera fruticosa*, *Gentiana saponaria*, *Apocynum androsimifolium*, *Eupatorium Ageratoides*, *Tiaretta cordifolia*, *Spiræa palmata*, *Leucojum Æstivum*, *Scilla siberica*, *Gillenia trifoliata*, *Plemonium reptans*, *Lysimachia nummularia*, *Corydalis nobilis*.

GRASSES.

Uniola latifolia, *Chloris radiata*, *Pennisetum longistilum* (tender)."

PERENNIAL PHLOXES.

BY JOHN SAUL, WASHINGTON, D. C.

Within the past few years the cultivation of good herbaceous plants in this country and Europe has occupied the attention of florists; and, in an especial manner, has the beautiful family of Phlox—the only wonder is how this tribe, so capable of improvement, should so long have been overlooked. Many are dwarf and procumbent growers; others are of tall and showy forms, with all intermediate sizes and habits. In spike of bloom and color, the variations are equally great. We have some of snowy whiteness, whilst others are a warm crimson or deep purple. Here, then, was a field for hybridizing, and one which latterly has been turned to advantage by French and English cultivators—especially by the former has this genus been so greatly improved. This improvement has been effected in the general habit of the plants, spikes as well as form of the flowers, but especially in the exquisite delicacy and tint of coloring in the fancy varieties, and the clear and decided colors of the self or plain. To the amateur they are invaluable—perennial, perfectly hardy, producing a profusion of bloom during summer and fall.

Their culture is exceedingly simple, succeeding in any good rich soil, not over dry. In planting, some well-decomposed manure or leaf-mould should be worked into the ground. During summer they are much benefitted by mulching; and in hot, dry weather, occasional watering with liquid-manure will be of much benefit. I generally allow not more than one shoot to form a plant, and never, however strong the plant may be, will I permit more than three. As a consequence, the spikes of bloom are much larger and finer, produce more lateral shoots, and continue much longer in bloom than where a crowd is allowed to grow up from the base. When passing out of bloom, the flower-spikes should be cut off before the seed forms; after which side-shoots are produced on the stems lower down, which immediately commence blooming by pursuing this system—allowing no seed to the plants—will give bloom up to the middle of October or later; whereas, if seed is allowed to form and mature, the plants "dry up" and cease blooming.

A couple of years since a list of sorts was given in the *London Gardener's Chronicle*, by Mr. Barnes, of Camberwell. This has lately been re-produced in the *Horticulturist*; but many varieties on that list are old, and much inferior to the gems of more recent introduction. I annex a list of 24, descriptions of which I made from plants in bloom, and they are such as may be relied upon by amateurs:

Admiral de Linois, white, deep violet centre, fine spike.
Baron Davesne, light purplish crimson, fine spike, showy.

Catharine Saxe, carmine, with darker centre.

Charles Rouillard, bright pinkish crimson, dark centre, fine spike.

Comte de Merona, deep purplish crimson, fine shape and spike.

Comtesse de Rodepont, white, bright pink centre, good spike.

Comtesse de Sericourt, white, deep violet eye, clear and beautiful.

Emilie Ferry, white, shaded with bright pink, crimson centre.

Judith, white, deep bright violet centre, fine shape and spike.

Ketelerii, rosy crimson, dark centre, fine spike.

Laurence Lecerf, white ground, suffused with violet, deep pink centre, fine shape and spike.

Laurent de St. Cyr, rosy lilac, petals of lighter mottling.

Madame Andry, white, crimson centre, beautiful shape and spike.

Madame Guldenschurch, rosy crimson, dark centre, large and fine.

Madame Lecerf, clear paper white, excellent shape and spike.

Madame Pescatore, white, violet centre, suffused with pink, fine shape and spike.

Mademoiselle Albertine, lilac crimson, bright centre, good shape and spike.

Marechal St. Arnaud, dark purplish crimson, fine shape and spike.

Morjeur Cambaceres, purplish crimson, deep centre, large, showy.

Morjeur Gros, white ground, suffused with violet, deep centre, beautiful spike.

Morjeur de St. Prajet, rosy crimson, dark centre, magnificent spike.

Purpurea Nova, clear purple, fine shape and spike.

Souvenir de Ma Mere, white, violet centre, good shape, long spike.

Souvenir de Passy, light pinkish crimson, dark centre, good shape and spike.

[We were engaged in compiling a list of the best Phloxes, when Mr. Saul's excellent enumeration arrived, most of which we know to be superior. There is not a more desirable tribe to cultivate.—Ed.]

DAHLIAS AND THEIR TREATMENT.

BY PARKER BARNES.

DORCHESTER, Massachusetts.

Editor Gardener's Monthly:

Dear Sir,—The writer of the following article on the Dahlia and its Treatment, having been an importer, propagator and grower of them for more than twenty years, (and if you should deem it worthy a place in your valuable paper,) believes the following hints will be found of some service to the novice, and, perhaps, not wholly lost to the veteran in dahliagrowing.

SOIL.

My experience is in favor of a compost made of old black garden mould, stiff loam, and sandy peaty loam; trench the bed twenty inches deep; the finest flowers are produced with the least trouble in a rich soil, for the Dahlia is a gross feeder, though not fond of unrotted manure. Any garden soil will grow this flower, but by a little attention to the soil a great improvement in both the quality and quantity of the bloom will be produced.

PLANTS AND PLANTING.

My experience has shown that plants struck from cuttings produce the most perfect flowers, the blooms being less inclined to become semi-double than those borne on plants grown from tubers; the latter often produce very coarse flowers, and are always of a stronger growth. The cuttings should not be rooted so early as to become pot-bound before the time arrives to turn them into the border; if the roots are strong and numerous enough to keep the ball of earth from breaking, it will be sufficient. By the autumn, the tubers become large and solid enough to keep well during the winter, and in the spring the eyes break more freely.

The plants should be set three feet apart between the rows, and two and a half feet in the rows. *Shade of every kind is injurious to the plants.*

The ground being prepared by trenching as above directed, choose straight spruce poles (which are the strongest and most durable) and stake the whole bed; let the poles be seven and a half feet long, and be driven into the ground one and a half feet; then plant your dahlias, one plant to each stake; the plant should be

set about one inch lower than the surface of earth in the pot, if the plants have been struck from cuttings; if from tubers, place the crown of the tuber two inches below the surface. Dahlias may be planted from the first of May to July; those latest planted give the best flowers, though, of course, do not afford as early or profuse a display. Dahlias may flower too early, and the blooms be burned up by the hot summer's sun; then before autumn the plant is exhausted, and no good flowers are produced. A dahlia should not begin to flower before the latter part of August, for cool nights are essential to the production of fine flowers.

The plants should be tied to the poles with soft bass matting, and should be carefully and frequently examined for this purpose; a high wind will often break the plant and destroy its symmetry and beauty.

PRUNING.

No arbitrary rule can be prescribed; the plant should never be allowed to become bushy with small branches, nor should severe pruning at any time be resorted to. Prune little, but often, is a good rule. Varieties differ as to the amount of pruning required, and experience alone will teach the amount beneficial to each.

Some varieties produce too many flower-buds, and consequently all the flowers are small or imperfect; when the buds are small, many may be removed to advantage; after they have attained any growth, however, this operation is of little benefit; in this experience must also be the teacher.

INSECTS.

There are many insects injurious both to the stem, leaf, and flower of the dahlia; I shall, however, only mention a few of those which prove most destructive in our climate.

The grasshoppers do much damage to the blooms by eating off the lips of the petals. To remove them by hand is difficult and wearisome. The best remedy is to turn some turkeys or domestic fowls into the dahlia plantation about the middle of August.

The striped squash bug (*Galeruca vittata*), and a small oval bug, destroy many flowers; they live in the bloom and eat holes in the floral rays, seldom leaving the flower till it is ruined. The remedies for these latter are unknown, for the flower is destroyed by the application of lime, &c. Fine blooms, or those which promise well, may be protected by a covering of gauze or lace; but this is too expensive and laborious an operation to be performed in a large plantation.

WATERING

Is never beneficial to the plants, not even in dry weather, unless persistently continued, for it has a tendency to bring the roots to the surface, and when the water is withheld the plants suffer from the change. If the dahlias are to be watered, the ground should be mulched with coarse litter of some kind, or sea-weed; this will better retain the moisture, and will prevent the earth around the plants from becoming hardened. Syringing the tops with soft water is of advantage; let it always be done in the evening; care should be taken not to use very cold water.

SELECTING BLOOMS FOR EXHIBITION.

This is often a difficult task to the most experienced, and often one or more points have to be sacrificed. To my mind, diversity of color should be a matter of attention, with, of course, a due regard to form and size. A stand of flowers of similar colors never shows as well as one where some attention has been given to a selection of dissimilar varieties. The general rule, as before laid down, is, form before any thing; next, color, which should be bright and clear; and, lastly, size. The blooms should never be handled or exposed to rough usage more than necessary, as the dead appearance thus produced can never be removed.

FANCY DAHLIAS.

These have lately become popular, as many very fine varieties have been produced. Miss Church, Loveliness, Lady Popham, and many others are quite as fine as any of the selfs; they are perfect gems, and creditable to any stand of show blooms.

It seems to me that the best effect is produced when the two

classes are exhibited in the same stand: the contrast is pleasing, and each cause the other to appear to greater advantage.

DEGENERATION.

A double flower being a monstrosity, there is always more or less tendency to revert to the primal state. With dahlias this disposition is particularly marked. It has always been my practice to keep a good old variety, if possible, till a better of its color or shade was produced; yet among a collection of 250, not more than five, new five years ago, can now be found.

A striped or mottled or other fancy dahlia will often produce self-colored flowers, and all, both fancies and solids, will in time so far run out as to produce single self-colored flowers.

SEEDLINGS

Are grown largely by florists in England and on the Continent. Much attention has been given to hybridization during the last fifty years; but, as in other plants, many of the seedlings are worthless, and most not superior to those already grown. About six very fine seedlings in a thousand is considered good success.

These fine dahlias, when brought to this country, are often worthless, producing poor flowers on account of the difference of the climate.

In this country very few good seedlings have been produced probably because there is less attention paid to hybridization, and no encouragement is offered by our Horticultural Societies.

WINTERING.

Take up the tubers soon after the frost has killed the tops; do not separate them, but pack them away in a dry cellar in dry loam, out of reach of the frost, till wanted for propagation in the spring.

In taking a retrospective view of the dahlia fancy we find a gradual improvement up to the present time. Of late years many of the finest varieties have been produced, and a really fine seedling commands as high a price now as at any former period.

The dahlia is eminently worthy of attention, on account of its cheapness, its ease of cultivation, and the rich display it makes in the garden when other flowers are gone.

The following is a list of the best now in cultivation, and the year they were introduced:

AUGUSTA LOUISA. Color light scarlet, brilliant, well formed flower, and constant. Height, 5 feet. 1854.

ANNIE, (Rawlings.) Color beautiful lilac, fine form, good bloomer, fine habit. Height, 4 feet. 1854.

ADMIRAL, (Barnes.) Color lilac, fine form and substance, good habit,—a good old variety. Height, 4 feet. 1853.

BESSIE, (Turner.) Color deep golden yellow,—a compact, well-formed flower; good habit. Height, 4 feet. 1855.

BEAUTY OF THE GROVE, (Barnes.) Color yellow, tipped with rosy pink; good outline, high centre. Height, 4 feet. 1854.

CONSTELLATION. Color bright rosy pink, with violet rays; very constant. Height, 6 feet. 1859.

COSSACK, (Fellowes.) Color bright carmine; an excellent variety. Height, 5 feet. 1854.

COCKATOO. Deep purple, with white tips; fine. Height, 4 feet. 1854.

COMET. A fine mottled and striped variety; fine form,—early. Height, 4 feet. 1854.

DUCHESS OF WELLINGTON, (Turner.) Pale cream color full and fine form; one of the best dwarfs. Height, 2 feet. 1856.

DUCHESS OF BLAUFORT, (Bush.) Blush-white, tipped and edged with dark purple; a full and constant flower,—one of the finest. Height, 4 feet. 1857.

DUC DE MALAKOFF. Deep carmine red, free bloomer; form and habit very fine. Height, 5 feet. 1857.

GOLDPINDER, (Turner.) Deep yellow; form of flower very fine and constant,—one of the best. Height, 3 feet. 1859.

GENERAL BOSQUET. Deep red,—one of the best. Height, 4 feet. 1859.

KING OF YELLOWS, (Collier.) Clear yellow, very good. 1852.

LORD FIELDING. Color nearly black; large and good flower,—the best dark. Height, 6 feet. 1859.

LOVELINESS. Pure white, edged with rich purple,—a good variety. Height, 6 feet. 1859.

LORD PALMERSTON, (Holmes.) Deep scarlet,—a fine show flower. Height, 4 feet. 1857.

LADY POPHAM, (Turner.) Color white, slightly tipped with rose; superior form. Height 5 feet. 1858.

LOLLIPOP, (Holmes.) Color salmon buff; good form and habit. Height, 5 feet. 1857.

MONS. PAUL L' ABBE, (Choidrines.) A fine crimson, form good, constant and reliable—one of the best dwarfs. Height, 3 feet. 1858.

MISS PRESSLEY. Color white, heavily edged with dark purple—constant; a new and pleasing variety. Height, 6 feet. 1859.

MISS WATTS. Pure white, good form and habit, the best of its color. Height, 5 feet. 1859.

MRS. CHURCH, (Church.) Color deep yellow, tipped with lake; a full sized flower; constant—one of the best. Height, 3 feet. 1859.

MRS. RAWLINGS, (Rawlings.) A blush-white, of good form and habit. Height, 5 feet. 1859.

MRS. EDWARDS. Color clear lilac, shaded with buff; a good flower. Height, 4 feet. 1859.

MRS. B. CUTTS. Fawn color; quite novel. Height, 5 feet. 1856.

M. GARDIER. Deep rosy red; fine form. Height, 5 feet. 1855.

ORLATA. Pure white, fine form and habit. Height, 5 feet. 1859.

OTHELLO. Deep, clear purple; good habit and form. Height, 4 feet. 1857.

PRINCE IMPERIAL. Color violet crimson, shaded with rose; good form and habit. Height, 4 feet. 1858.

PRINCE FREDERICK WILLIAM. Crimson; good flower,—always perfect. Height, 2½ feet. 1859.

PRE-EMINENT. Color purple, full size; fine form and habit. Height, 4 feet. 1855.

PRINCESS, (Rea.) Color bright rose; a distinct and superb flower. Height, 6 feet. 1856.

ROLAND. White, heavily tipped with dark purple; fine form and good habit. Height, 4 feet. 1857.

STANDARD BEARER, (Alexander.) A very close-formed flower, beautifully tipped with white, of excellent habit. Height, 6 feet. 1859.

SIR HENRY HAVELOCK. Bright orange-scarlet; a fine show flower. Height, 4 feet. 1859.

SUMMIT OF PERFECTION. Deep crimson maroon, of the best form. Height, 4 feet. 1859.

TOUCHSTONE. Light purple; form and habit good. Height, 5 feet. 1858.

YELLOW BEAUTY. A fine yellow. Height, 4 feet. 1857.

QUEEN OF THE EAST, (Barnes.) Clear blush; a flower of good size and substance. Height, 5 feet. 1854.

QUEEN OF YELLOWS, (Harrison.) A good flower; form good. Height, 6 feet. 1854.

VILLAGE GEM, (Green.) Color clear white, edged with rich rosy crimson,—always an attractive and desirable flower, habit good. Height, 5 feet. 1859.

The above-mentioned varieties can all be recommended as fine flowers; many more might be added almost as fine, but a choice selection can be obtained by choosing colors from those above enumerated.

DOWNER'S PROLIFIC STRAWBERRY.—Mr. Reeves, Keysburg, Ky., writes, that when he stated in his January article, that in his district Wilson's Albany seedling stood pre-eminent, he alluded to such as have been disseminated.

Parties in the neighborhood are under the impression that he included Downer's Prolific in his comparison. This he disavows, as he has not seen this kind.

He adds that he knows Mr. Downer, and many who signed his report; and that they are all men of the highest honor and standing in the community.

MAXATAWNY GRAPE.

BY DR. W. D. BRINCKLE.

In 1843, several bunches of Grapes growing at Maxatawny, Berks county, Pa., about twenty miles above Zieglersville, were sent to a friend residing at Eagleville, Montgomery county, Pa., six miles above Norristown. The seed of all these grapes were planted at once, only one, however, vegetated during the following Spring. This plant after remaining three years where it had come up, was removed to near the summit on the north slope of Camp Hill, Montgomery county, Pa., where it still stands, and is in a flourishing condition. The only protection it has is a dwelling house on the west side of it about five feet from the vine. It has been permitted to run wildly over a plum tree that stands near it. Specimens of this fine Grape were received by me in September, 1858, from Peter Crans, Esq., of Springfield township, Montgomery county, Pa., (Post Office address Mount Airy, Phila.,) who deserves the credit of bringing this valuable Grape into notice. He has a number of vines growing from wood taken from the original vine, and during the next Winter will have a large supply of the wood, which he will take pleasure in distributing, without cost, among those wishing to grow it.

Bunch—Five inches long, loosely formed, usually not shouldered, and occasionally quite compact.

Berry—Greenish white, sometimes with an amber tint when fully ripe, roundish oval, eleven sixteenth of an inch long, by ten sixteenth in width.

Flesh—Tender, not pulpy. *Flavor*—Saccharine and delicious. *Quality*—"Best."

Maturity—Eaten 23rd of September.

The original vine bore one and a half bushels of grapes in 1858. During the past season specimens even finer than those I received in 1858, were sent to me.

My friend L. E. Berkman, Esq., has seen the fruit and fully agrees with me in regard to its excellence. He has a fine plant of this desirable variety.

ORCHID CULTURE.

BY AN OLD GARDENER.

MR. EDITOR:—In the February number of the *Farmer and Gardener*, I have read a leading article on *Orchid Culture*, and was surprised that the writer should recommend to the Orchid growers of this country a "Practical Treatise on the management of Orchidaceous Plants, by J. C. Lyon," written in Ireland fifteen years ago. As all who now grow orchids, well know the fallacy of Lyon's directions. Just fancy the practical grower of the present day, subjecting the splendid epiphytal genus *Stanhopea*, to pots filled with peat cut with a knife into lumps or blocks three inches square, pegged together, and

heaped up in the shape of a cone six inches above the rim of the pot, and affording a complete nest for wood-lice and other insects. Even if we could procure in this country peat similar to that found in the bogs of Ireland, and such as is termed *Excler peat* in England, no man of modern experience would think of adopting the Lyon's system.

Had the writer in the *Farmer and Gardener* witnessed the splendid specimens of orchids exhibited within the last ten years at the Metropolitan shows in London, he would doubtless hesitate before too confidently endorsing as reliable such a work.

Those about to commence the cultivation of Orchids, should beware of using lumps of peat about the size of "pigeon eggs," as recommended so freely in the work before alluded to. Experienced orchid growers know that such treatment is certain death to many species of epiphytal plants.

[We cannot in future admit any controversy into our pages that may be partly carried on in any other journal. Our readers cannot judge of the merits of such controversies. We insert this communication because it contains some excellent hints on Orchid growing that will benefit our readers.]

HYACINTHS.—Much has been written respecting the culture of Hyacinths in the open ground, the greater portion of which has, however, been calculated to deter persons, dependent upon such sources of information, from attempting their growth. It is usual to state that to grow a Hyacinth successfully, a very rich soil is absolutely necessary; but it has just been shown that any well-drained garden soil is easily rendered suitable for its growth. If the soil is of a strong adhesive nature, and the plunging in pots not resorted to, add two inches of sharp sand, and as much well-decayed manure; then dig the soil 2 feet deep with a steel fork, taking care to mix the sand and manure with the mould as the work proceeds. Friable loamy soils will require merely a liberal dressing of manure and deep digging; and it will be found that the Hyacinth will produce equally fine spikes of blossom grown in soil prepared thus, as when planted in more expensive compost.

The season for planting Hyacinths in beds, in the open air, is from September onwards. Select a dry day for putting in the bulbs; and if the same can be chosen for the preparation of the soil, it will be in much better condition for the growth of the plant than if worked when wet. Plant in lines, 9 inches by 12 inches apart, which will afford space between the plants, when up, to work a hoe for the destruction of weeds, and keeping the surface friable, to prevent the escape of moisture in dry weather.—*Gardener's Chronicle*.

The Gardener's Monthly.

PHILADELPHIA, MARCH 1, 1860.

All Communications for the Editor should be addressed, "THOMAS MEEHAN, GERMANTOWN, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY, Box 406 Philadelphia."

NOTICE TO CORRESPONDENTS.

In consequence of the heavy increase in the circulation of the *Monthly*, and the consequent necessity of going to press earlier in order to issue the Magazine punctually to all our subscribers by the 1st of each month, it is desirable that communications requiring immediate attention, should reach the Editor before the 10th of each month.

THE NEW REVOLUTION.

DOWNFALL OF THE SPADE.

It is a remarkable fact that there is not a new idea that suddenly becomes popular, but finds scores of persons ready to contest its originality, and to protest that it was known to their grandfathers long, long ago. They are generally right. On the Solomonian maxim, that "there is nothing new under the Sun;" Plato or Cicero may have been the founder of the American Republic,—and as for the Steam Engine and the Electric Telegraph, were not the ideas known to some of the remotest heroes of profane history?

After all, invention is of little merit, unless the public is benefitted. The man who popularizes an idea,—who makes it acceptable to the masses,—and who renders it applicable to the increase of the luxuries and comforts, or the alleviation of the wants and miseries of mankind, is after all the real benefactor.

Within the last few years a revolution of ideas has been silently going on, with regard to the proper management of the soil. No one knows who originated the idea—but the fact has been for some time gaining ground, that the *surface soil* plays an all important part in vegetable nutrition. The old writers, Jethro Tull in particular, taught that the best manure for garden crops was a "bright spade." The grand principle that illuminated this idea was, that frequent stirring of the soil admitted the air to the roots; a point still conceded to be of vast importance.

But as chemistry and vegetable physiology progressed, it was found that the feeding roots of plants were mainly at the surface; and that the stronger and coarser roots which penetrated deeply into the earth, had for their great aim the supplying of the tree with a continuous and regular amount of moisture; and so the object of deep cultivation became very much changed.

No cultivator of any eminence *now* digs his soil with the view of supplying air as *food for the roots of plants*; but as a means of giving the soil a greater

non-conducting power, by which it is warmer and dryer in Winter, and cooler and moister in Summer; and no one now digs manure deeply into the soil, as *manure*, but as a sort of mechanical means of keeping the particles of soil from packing closely together. In other words, it is for the purpose of keeping the ground "open and porous."

A great deal of this revolution has no doubt been owing to the spread of knowledge as to the true theory of the benefits of under draining. In land thoroughly under-drained and well subsoiled, a current is continually flowing through the surface, the soil is thoroughly aerated; and digging, one of the most laborious of manual operations, is nearly dispensed with.

When once the body of earth we cultivate has been reduced to this perfect condition, an annual surface manuring and forking or harrowing over, will have the same effect as the enormous labor of the digging and deep plowing of the past age.

The single idea that for a long time held up the advantages of digging the surface upside down was, that the mineral matters contained in the soil, and essential to the plant's perfection, were prepared by the action of the atmospheric elements, the better by annual exposure. With this view whole fields have been left for a season "in fallow,"—bearing no crop—all for the benefit of the season to come. Now, that chemistry has shown what are the elements of fertility, these are applied artificially with the manure, and the last vestige of cultural barbarism has disappeared.

Admitting heat and air to the subsoil, and applying all the elements of nutrition to the surface, is now the code of faith in the new order of things. Every inch of surface soil now possesses a value. No one thinks of burying it. It's glory never departs; and to the good cultivator, its virtues have become perpetual.

To the valued contributors to this periodical, does the merit of popularizing this idea in a measure belong. One of the most recent communications under the signature of "Digging Fork" (see page 39) is particularly well worthy of being read over again,—and when in the course of time, our posterity shall read of the miseries of old diggers, and the back-aches suffered by doubled up old delvers,—and shall learn after patient investigations in some old museum or curiosity shop what kind of an instrument the "spade" they read about was; they will bless the past memory and continued existence of our little work for aiding in achieving their emancipation from the bondage of diggery.

NEW HAVEN LECTURES.

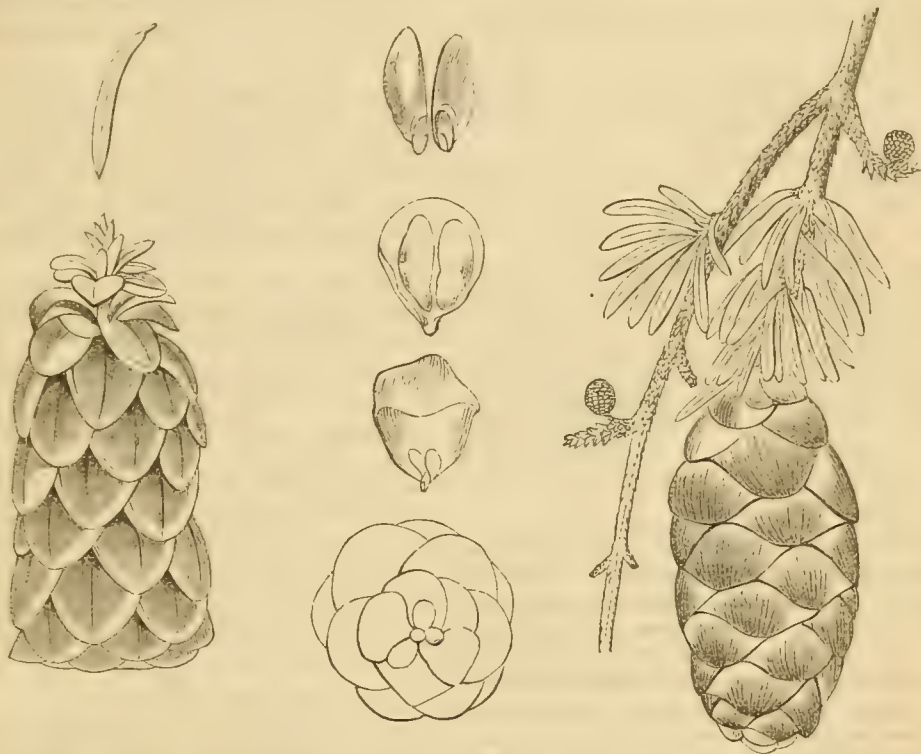
We are indebted to our friend, DR. J. S. HOUGHTON, of this City, for our Special Correspondence from New Haven.

ABIES WILLIAMSONII.

(See Frontispiece.)

We consider ourselves fortunate in being able to present our readers, this month, with a lithograph of this beautiful new hardy conifer, from a sketch made by the artists connected with Lieutenant Williamson's late Expedition to the Pacific. The specimen which our engraving represents, was growing in the Cascade range of mountains, between latitude 45° and 46°, near the Columbia River; and as it grows in company with *Picea amabilis* and *Picea grandis*, which stand out hardy in Mr. Sargent's grounds at Wodeneth, and other places, there can be little doubt of its proving entirely hardy here.

Dr. Newberry, the botanist, who has described and named it, speaks of it as being one of the finest of the genus. It is the most Alpine of all the firs, growing near the region of perpetual snow. Its usual height is about one hundred feet, with an irregular spreading, and remarkably graceful habit. The annexed cuts exhibit the botanical characters of its leaves, cones, scales, seed, etc.



The following is Newberry's description: "A tree of large size and Alpine habit; leaves short, acute, compressed, with a lenticular section. Cones pendant, long ovoid, acute, 1½ inches long, purple while young, when old cylindrical or somewhat conical, with a flattened base; scales rounded entire, large, in old cones strongly reflexed, except at the base of the cones; seed small, ovoid, black, wings elliptical, entire, pellucid; male flowers in small, nearly spheroidal small heads."

We find that in some English works they speak of *A. Williamsonsii*, or *Mertensiana*. But this is evidently a mistake, perhaps originating in the Edinburgh Philosophical Journal. Bongard, the Russian botanist, who named and described *A. Mertensiana*, gives Sitka as its locality, many miles further north than *A. Williamsonsii* grows, and speaks of it as having reniform scales; ("Strobili squamis reniformibus integris,") a striking distinction, besides many other points of difference.

RETURNED.

Our correspondent Mr. BRIGHT, we are pleased to find, has returned safely from his European trip, and informs us in reply to numerous correspondents, that his work on the grape will be put to press immediately. Mr. S. B. PARSONS has also returned from his trip, and our readers may anticipate some useful information from the gardens of the Old World.

BOOKS, CATALOGUES, &C.

Manual for the Pruning of Fruit Trees, by Henry Larsen.—Published by Challen & Son, Philadelphia.
Year Book of the Farm and Garden, by A. M. Spangler.

The Prairie Fruit Culturist, by C. Thurston Chase. Griggs & Co., Cincinnati.

Reports of the Mass. Hort. Society for 1859.—Received from Mr. Eben Wright; very interesting, and for which we are greatly obliged.

Roger's Hybrid Grapes' Circular.—Mr. Rogers has become famed as a successful hybridizer of the native with the foreign grape, and this circular details the results.

Weathersfield Seed Sower.—Circulars and testimonials. The cut would seem to indicate that the machine is a complete success.

Descriptive Catalogues have been received from O. Taylor, Purcellville, Va.; Richardson, Warren & Co., Olcott, N. Y.; Miles & Reeve, Southold, L. I.; H. W. Wilson, Washington, Pa.; D. P. Dyer & Son, Providence, R. I.; White & Prentice, Toledo, O.; Louis Van Houtte, Ghent, Belgium, seed; Peters, Harden & Co., Atlanta, Ga.; Joshua Pierce, Washington, D. C.; Casper Hiller, Conestoga, Pa.; T. S. & W. Humrickhouse, Coshocton, O.; B. Snyder Kingston, N. Y.

Roses—J. Saul, Washington; and Jas. Penland, Baltimore—two excellent lists. *Farmers' High School*, P. O., Centre county, Pa., is a model of ingenuity and accuracy, and reflects much credit on the institution in every way.

BEDDING PLANTS AND FLORISTS' FLOWERS.

Peter Henderson, Jersey City, has a very select list, and John Henderson, of the same place, sends us a full one also. Isaac Buchanan, Astoria, Long Island, includes also Green and Hot-house plants, and Orchids. The *Bridgeman's Broadway*, New York, Seed and Green-house catalogue, with their usual fullness and beauty. A. Fuller, Brooklyn, includes excellent treatises on the grape management. David Griscom, Woodbury, N. J., a handsome illustration of *Pinus excelsa* for a frontispiece. Lastly, a catalogue of *green-house and hot-house plants*, the property of an amateur, for sale by Mr. Farly, Baltimore, in which, particularly, Camellias and Azaleas, are many extremely rare and valuable plants, many of them alone in the country.

WHOLESALE LISTS.

John Saul, Washington, D. C. J. S. Cook, Cincinnati, O. W. R. Prince & Co., Flushing, (grapes.) Nealley, Bro. & Bock, Burlington, Iowa. J. H. Cogswell, Poughkeepsie, N. Y. Parsons & Co, Flushing, L. I. A. Frost & Co., Rochester, N. Y. Hoopes & Bro., West Chester, Pa. R. L. Allen, N. Y., (seeds.) Smith & Hanchet, Syracuse, N. Y. E. C. Frost, Havana, N. Y. O. B. Maxwell, Livingston, N. Y. Ingersoll, Murphy & Co., Livingston, N. Y. F. Prentice, Toledo, N. Y.

Questions and Answers.

APPLES—Col. Frost, of Havana, N. Y., honored our office last week with a call, introducing us to his lady, and the scarcely less handsome King of Tompkin's County Apple. Like that original apple, it was large, beautiful, and fair without, and not filled with "bitterness within," but of excellent eating quality, and, as Mrs. F. assured us equally excellent for cooking. We never excused Adam before, but had Col. Frost been our unlucky first parent, with such a beautiful, but to us unhappy, combination of circumstances about him, he must have fallen.

APPLES from Dr. R. Tyler, Warren, Mass., received last fall, and preserved till now, we find to be one of the best keeping apples, and for cooking unequalled—which we are conscious is a strong term—by any we know. It very much resembles the Focht, and is, we think, that variety modified a little in appearance by locality.

AMERICA AND CINDERELLA ROSES—S. H. H. Port Eyrone, N. Y.—Will find all we know of these at pages 60 and 172 of our last volume.

TO PREVENT BRANCH SPLITTING—W. Z. B. Finley, O.—The best way to prevent two large branches splitting at the intersection is to bore them with an augur a few feet above the divergence, and insert a rod of iron, with screw heads and washer at the ends. It will not injure the tree. Probably the rod might be put just below the fork, and answer well.

NAME OF PEAR—Q. M., Petersburg, Va.—We do not recognize your pear, though the sketch and description is very complete. We should be glad of a specimen of the fruit in due season.

GREENHOUSE STAGING:

S. M. H., Lancaster, O.—A compromise between staging and tables is best,—that is about two or three wide steps to the stage. The usual idea in favor of steep stages is that it gives more room; but this is a fallacy in a great measure—the perpendicular space remains the same. It is also an advantage to have sand on the staging for the pots to stand on.

HONOLULA NECTARINE SQUASH.—Specimens of the seed of this before mentioned variety from Mr. J. W. Briggs, of the "Rural Empire Club," Macedon, N. Y., enables us to say that it is of a totally different species to the Apple Pie Melon, with which we notice it is in some quarters confounded, and of which we were ourselves doubtful about. It is a very valuable addition to our vegetable list.

UNPACKING VERDENAS—V. W., Athens, Ga.—After coming some distance, may be set out in the

open air at once, but they should have an inverted flower pot over them for a few days afterwards, until they get root hold.

SEEDLING JUNIPER—*W. S., Pomaria, S.C.*—Sends specimens of a Weeping Golden Juniper. The Juniper varies so from seed,—some having a habit quite equal to the *J. oblonga pendula*,—others almost as erect as the Irish; and these varying forms are so numerous and common, that we do not like to give an opinion of the merits of this variety from a small specimen. We can only say, that it appears to be a desirable variety.

WINDING WALK—*J. F. S.* says—"I wish to make a path from front door of house to gate opening into road in front of house; in corner of yard some eight or ten rods distant ground descends considerably; should I make the path perfectly straight, or with a regular curve, or in an irregular winding manner? Yard is filled with beds of flowers, roses, shrubbery, &c."

[A winding walk does not look well usually between two objects nearly close to each other; if the ground were flat and level a straight walk would be preferable. In your case a winding walk around the eminence would doubtless be best.]

PANSIES—*J. F. S., Lewis Centre, O.*—Sow the seed at once in rich turfy soil, in a hot bed. Pot singly in three inch pots soon after they appear, and keep in a cool and very light frame with plenty of air in good weather. As soon as all danger of frost is over, they may be set out in a bed of rich soil. In an airy spot, not exposed to the sun. Dry soil soon injures them.

CARNATIONS—*The same.*—You cannot get these to bloom this year from seed sown now. Sow as for pansies, and plant out in rich soil, in a sunny place.

DALIAS—*Do.*—Mr. Barnes article will tell you just what you require.

GREENHOUSES.—For Winter flowering, one of the charms of a greenhouse, side lights are important, and this you could not have if you dig down into the soil as you propose. A communication on Greenhouses, from the able pen of Mr. Strong, will appear in April, and will just meet your wants.

LANTANA CUTTINGS—*G. B. B., Denmark, Iowa.*—Where any difficulty is experienced in raising cuttings, they may be readily increased by layering the young and growing shorts into small pots.

JONES' SUN FLOWER.—Mr. H. R. Simmons, of Chatham Four Corners, writes us in praise of Messrs. Jones' Dwarf Sun Flower. We have already stated ourselves that it is well worth growing.

SELECTION OF ROSES.—In selecting one rose of each of the following kinds, what would be your choice:—one Bourbon, one Noisette, one Tea, one China, and one Hybrid Perpetual? Please answer through the *Monthly*.

S. H. H., Port Byron, N. Y.

[Our friend has handed us a nut we can scarcely crack, there are so many "best" Roses. We may say however that we should not like to be without Souvenir de Malmaison, Lamarque, Devonienis, Louis Philippe, Lord Raglan. We do not like, however, to reflect long on this list, or we are sure we should soon think of many we like better.]

COLORING PLATES OF GRAPES.—Mr. Dewey, of Rochester, sends us handsome executed plates of the Delaware, Hartford, Prolific, and Catawba grapes.

BLACKBERRY—*E. H. Osborne.*—The New Rochelle or Lawton is not of the Dewberry species. Newman's Thornless appears to be, but we have not fruited it.

DIELYTRA SPECTABILIS—*Dear Sir:*—What shall we call that beautiful little pink flower *Dielytra spectabilis*? Shall we call it *Dielytra*, *Dicentra*, or *Dicylra* I became acquainted with the plant a short time after it was sent to England from China, by Mr. Fortune in 1846; have never known it in England by any other name than *ctabilis*. would like to see the question finally settled.

[By strict botanical rules the right name is *Dicentra*.]

FLOWER PIT FOR WINTER—***.—Should nothing offer before the season arrives, we will see that proper hints for making and managing flower pits appears for you and others.

OSAGE ORANGE CUTTINGS—*A Subscriber, Calonsville, Md.*—These grow readily from root cuttings made with lengths of about two inches, and planted in Spring in any rich warm soil. While, however, you can buy seedling plants for a trifle per one thousand, or seed from almost every seed store, it will be a costly operation to raise them from root cuttings.

PROPAGATING GRAPES—*A Subscriber, Fayetteville, N. Y.*—Will find an answer to her inquiries in our

monthly hints this month. With regard to the weak young plants now growing in a hot bed, the best plan to get them to grow strong next season, would be to repot them as the pots become full of roots, and keep them growing in the house the whole season. Grapes root grafted grow stronger than those raised from eyes the first season.

TRENCHING GROUND.—*A. B. Shimer.*—We have an excellent article on hand from Mr. Fryer, of Dayton, which would suit you exactly, but must lie over for want of space till next month.

Many other inquiries coming in as we are closing this department, we regret to have to let lie over till our next issue.

LABELS BY MACHINERY.—We have received from Mr. Penfield specimens of pine labels, which he can furnish very cheap by machinery made for the purpose. We can only say that they are very well and neatly made.

PIEPLA TRIFOLIATA.—*W. C., Ottawa, Ill.*—From what we can learn from others, the seed of this plant make an excellent substitute for hops in cookery.

ENGLISH NAMES OF PLANTS.—*J. B., Princeton, N. J.*—Suggests Don's *Hortus Cantabrigiensis* as one of the best, as it contains the English names of thirty thousand plants. Any importer of books could procure it.

DRYING FLOWERS.—*Mr. H. Baldinger* writes that the beautiful art of preserving flowers, noticed in our Monthly, p. 59, is being successfully carried out by Mr. Frank, of Philadelphia. We noticed the pretty specimens of Mr. Frank at the State Fair at Powelton, and made a few enquiries concerning them of the gentleman in charge; but as the answers we received amounted pretty much to the effect that "it was none of our business," we presumed the gentleman did not wish to be known in connection with the art, and so furnished our readers with the translations instead.

SHALLOW PLANTING.—We have received many communications on this subject, from which we have selected two representing the views of parties at opposite ends of the States. Not having room for so many on the same subject, we are yet no less obliged to the writers, and trust they will continue to contribute their knowledge on other subjects also.

PRUNING APPLE TREES.—*O. Wannemacher, Aurora, N. Y.*—Will find some excellent directions in the remarks of Dr. Eshleman, at the Lancaster fruit grow-

ers' meeting. There is no better authority on matters appertaining to apples than the Doctor's.

MACHINE FOR WEAVING MATTS.—*M. L. Akers.*—Enquires whether the French machine described in our specimen Number has been tried yet in this country, and with what results?

Archangel, Russian, or Bast mats are generally used for protection as well as home-made ones of Rye-straw. The latter are the best.

THE FRANKLIN GRAPE.—We have received a note from our good friend Mr. J. B. Garber, enclosing a letter from Mr. O. T. Hobbs, in relation to this grape, with permission to publish. Mr. Hobbs refers to the fact that the Franklin is erroneously stated to be a "seedling of Mr. Garber's" in some nursery catalogues, while it was first sent by him to Mr. Garber in 1856.

Whatever merit there may be in the Franklin, the credit of the discovery should be where it rightfully belongs.

Mr. Garber adds, respecting it:—"Of all the grapes with which I am yet acquainted, I have the most reliance on the Franklin for vineyard culture,—healthy, hardy, vigorous grower; free from mildew, rot, or any other disease so far as I have had it on trial. As a table grape it is not first-rate—yet a better grape than Clinton."

It is worthy of remark, that while most new grapes are "brought out" at high prices, Mr. Hobbs has advertised his at the moderate price of 25 cents. Such a rare experiment is commendable, and we hope will be successful.

NEW ROSES.—The following are some of the best new roses introduced into English gardens last year:

Hybrid Perpetuals.—Anna Alexieff, Anna de Diesbach, Souvenir de la Reine d'Angleterre, Armide, Altesse Imperiale, Comtesse de Chabillant, Comte de Beaufort, Delamothé, Empereur de Maroc, Prince de la Moskowa, Francis 1st, Imperatrice Eugenie, Lord Elgin, Mad. Bruny, Mad. Varin, Mdle. Auguste, Mdle. Marie Boyer, Mdle. Haiman, Mount Vesuvius, Oederic Vital, Oriflamme de St. Louis, Reine de la Cite, Virginal (pure white.)

Bourbons.—Comtesse de Barbantanne, Dr. Berthet, Edith de Murat, Mad. Merechal, Octavie Fontaine.

Noisette.—Jane Hardy (our own yellow, raised same time as Isabella Gray.)

Tea Scented.—Homer, Mad. Damaizin, Mad. Falcot, Mad. Halfrin, Socrates.

DESIGN OF FERN HILL GROUNDS, PHILADELPHIA.—*The Seat of H. Pratt McKean, Esq.*—Mr. A. Burnett, now of Reading, Pa., and formerly so long and so

successfully gardener to Mr. McKean, writes, that although our remark at page 120 of last volume, that the house and grounds were from "designs furnished by Mr. J. C. Sidney" is correct so far as the original plan may be understood, the grounds in their *present* main and general details, are from his own designs, and of his own execution.

It is the inevitable fate of almost all places to be altered and "improved" after leaving first hands, by every succeeding party "in power;" too often indeed are the "improvements" of a very questionable character. It is gratifying that in the present instance no party has cause to blush for his successor.

Mr. B. also observes:—

"It was Mr. McKean's own idea to lay the flagstones along the centre of the gravel walks, around the mansion—a most excellent improvement.

The Fig trees which you noticed, are suckers from an old tree planted by the late Mr. Clapier, a long time ago, against the south side of one of the many old buildings which we razed to the ground.

Twenty years ago this tree bore, and matured most excellent fruit, so I have been informed by those who gathered them. I should suppose it received protection of some kind in Winter."

THE valued contribution of our lady friend "Primrose," shall appear in our next.

HORTICULTURAL SOCIETIES.—S.'s interesting communication is laid over till next month.

OBITUARY.—*E. W. Keyser, Esq.*, one of the Vice Presidents of the Pennsylvania Horticultural Society, and one of its most active and distinguished members, died in Philadelphia on the 7th of February, in the 69th year of his age. The fruit committee, will, in particular, suffer a severe loss, as his pomological knowledge was very superior. Very few members have passed away so universally beloved and esteemed.

Special Correspondence.

POMOLOGICAL LECTURES AT NEW HAVEN.

[SPECIAL CORRESPONDENCE OF THE GARDENER'S MONTHLY.]

The Lectures on Agriculture and Horticulture, which have been held at New Haven during the month of February, under the direction of Professor JOHN A. PORTER, of the Yale Scientific School, have justly attracted a large share of public attention. The enterprise we consider a very important one. Professor Porter called it a Convention. It was, as we understand it, a series of popular and scientific lectures on Agriculture and Horticulture, delivered by eminent practical and scientific men from all parts of the country, as an adjunct to the Scientific and Agricultural School already existing at Yale College. The object was to interest the public at large—farmers, amateur-pomologists, nurserymen and gardeners—in the subject of agricultural education; and no method could have been devised more likely to accomplish that object in the most thorough and effectual manner. The attendance was quite large, and comprised all classes of cultivators from

widely distant parts of the Union, and persons of all ages, from the ruddy-faced farmer's son of sixteen to the grey-haired veteran of seventy. The greatest interest was manifested by all the lectures and discussions frequently occupying six and eight hours of the day and evening; which is a long time for persons unaccustomed to sedentary pursuits to sit on hard benches and listen to lectures and speaking.

The first week of the Lectures was occupied by Professor S. W. JOHNSON, on Agricultural Chemistry; Dr. ASA FITCH, on Entomology; and DANIEL C. EATON, Esq., a Botanist of New Haven, on Vegetable Physiology. Professor Johnson's lectures were very carefully prepared, and formed a perfect compend of the science. Every body considered them very valuable. Prof. Johnson presented some new views of old theories, which at first seem a little startling; but he sustains them with strong facts and sound philosophy and chemistry, and they deserve attention. We understand that the Lectures will be published, so that we shall have an opportunity to examine the new views more carefully.

The lectures by Dr. Fitch, on Insects, were exceedingly interesting and useful. Mr. Eaton, the botanist, also discussed his subject with much skill and intelligence.

The second week was opened by the Hon. MARSHALL P. WILDER, in a lecture on American Pomology and the Culture of the Pear.

The pomological subjects, of course, attracted a large number of persons who had not attended the previous lectures, and did not remain for the lectures on Agriculture and Stock-breeding. The appearance of Mr. Wilder on the speaker's stand was the signal for a greeting from the audience, in the highest degree cordial and enthusiastic. The fact is, the people really love the polite, accomplished and genial sage of Dorchester, who may almost claim to be the father of American Pomology, and no one could have been found, in the whole country, better qualified to inaugurate a national school of instruction of this character (as we feel assured it will be), than Mr. Wilder.

Some one near us remarked, as Mr. Wilder rose to speak, "He looks like a ripe pear." The comparison is not an inapt one. He looks like a ripe and sound specimen of a generous-hearted man, with a good physical constitution and a highly cultivated intellect. His head is shaped very much like that of the Hon. John Quincy Adams. It has the same round, broad form, and being sparsely covered upon the sides only with grey hair, increases the resemblance. Mr. Wilder's features, too, are not unlike those of the late ex-President, but somewhat stronger and more boldly defined, and never wear that expression of force determination which was often seen upon the face of Mr. Adams. Mr. Wilder, though probably well beyond the three-score mark in age, like Mr. Adams, wears no spectacles in reading his notes, and his eye is bright and twinkling with life and vivacity.

Mr. Wilder's lecture was an admirable one in all respects, highly instructive and interesting, and contained many passages beautiful in style and touching in sentiment. We did not know before that Mr. Wilder was so gifted in the art of literary composition. The delivery of his address was also good, and altogether it afforded a high degree of satisfaction. Many ladies were present, and seemed to enjoy the lecture highly.

We will only add, that Mr. Wilder expressed his decided belief in the value of the pear on the quince stock, and in its probable success, under garden culture, in all the States from Massachusetts to Georgia. That is, it will pay under such circumstances, and probably in the orchard also. He advocated "high culture," and the free application of manure to the pear on poor soils.

Both before and after Mr. Wilder's lecture, discussions were held by the pomologists in attendance, upon the various topics presented in the lectures. These discussions were exceedingly interesting and useful. They brought out a variety of conflicting opinions from numerous practical and scientific men and amateurs, which, when compared and debated, often modified and corrected the opinions of the speakers, and even of the lecturers themselves.

Thus a member called in question the propriety of "high culture" (as generally understood) for the pear on good soils, or the free manuring of the pear tree, and especially dwarf pears, with stable manure, as might be supposed necessary from the remarks of Mr. Wilder. This, he contended, was not practised by the most successful cultivators where the soil is good. Mr. Wilder not being present, it was explained by a friend, that he did not intend to say that the pear should be freely manured with stable-manure on good soils, as he does on the poor, thin, gravelly soil of Dorchester; and in proof of this, a passage was quoted from his lecture, as follows: "Surely it would be unwise to apply the same cultivation to the peach and the cherry as to the apple and the pear, or to treat any of these on new and fertile ground as in old and exhausted land." So that hereafter it will be well for cultivators to inquire what kind of a soil writers or lecturers have worked upon, before we adopt their advice.

The subject of deep and shallow planting, especially in its application to the pear, came up in this same discussion, and was pretty freely ventilated. The result of it was, a very general impression that the pear, and especially the quince-rooted trees, have been planted too deeply, and that their roots should, if possible be kept out of the subsoil. To do this, the pear must be budded low upon the quince stock, and the main root must be shortened as much as possible when set out, and in some instances it is better to make a slight concave mound around them with soil (in

order to cover the quince stock completely), rather than to set them too deep in the ground. Much valuable information upon these topics was obtained from Mr. Barry, the distinguished nurseryman of Rochester, N. Y., who was in favor of a moderate depth in planting the dwarf pear always keeping the quince root entirely covered, and of manuring only with well-decomposed manure and mature compost, and not with fresh highly stimulating stable manure. Messrs. Pardee of New York, Allen of Buffalo, Colt of Norwich, Weld of Hartford, Fuller of Brooklyn, Houghton of Philadelphia, Bartlett of N. H., and several others took part in these sessions, which was one of the most animated of the week, and was the cause of doing much good.

The next lecture was upon Grapes, by Dr. C. W. GRANT, of Ionia, near Rockwell, N. Y., whose reputation as a propagator of native grapes is well known to our readers. The Doctor came very thoroughly prepared for his task, with well-digested lectures and fine diagrams, some of them from six to ten feet square, beautifully drawn and colored, no doubt executed by his wife, who is highly skilled in this art.

Dr. Grant is a man somewhat younger, we should suppose, than Col. Wilder, but equally ripe and genial in his aspect. One of the New York reporters, we see, calls him the "good Dr. Grant." He certainly has a good and benevolent face, and he is a good lecturer. His head is covered with a mass of thick, flowing, greyish hair, and his countenance is instinct with acute reflection and vivacity of thought.

The lectures on the Grape were exceedingly valuable. Dr. Grant has devoted many years to the study of this subject, and has visited all parts of the United States to examine new varieties and to collect information in respect to the best modes of propagation and culture, and he presented the result of this ripe experience and extended observation in a very perspicuous and intelligent manner. A brief report of Dr. Grant's lectures will be found in another column of the *Monthly*. These reports must, from the nature of things, be very imperfect, often erroneous, and must not be considered as reflecting the real value of the lectures.

Dr. Grant advocated very thorough preparation of the soil for a vine border, by composting and turning, and argued against the use of fresh animal manures or night soil in or under the vine border. Few common cultivators of the grape are probably impressed sufficiently with the importance of thorough preparation of the grape border, or the vineyard soil. He described very fully the Thomery system of pruning the vine for high trellises, and also the Cincinnati system of vineyard culture.

In the discussion which followed, some objection was made to very deep borders, and especially to those over-rich in animal and fermenting manures, and to any system of training on high trellises over six feet for vineyard culture. Dr. Grant advocates borders thoroughly prepared and intermixed only two feet deep, for general purposes. For vineyard culture he proposes to plough up and fertilize one foot of subsoil before planting. Others were of opinion that ploughing and subsoiling, without turning up the subsoil, was amply sufficient for the Grape as for the orchard. Mr. L. F. Allen, of Buffalo, earnestly opposed the idea that it is necessary for success in ordinary vineyard culture, to trench two or three feet deep, and spend so much time and money in fertilizing the subsoil, when it is so easy to top-dress and to fertilize the vineyard from year to year with good composts, as it may seem to require. Others declared that the deeper the roots of the vine penetrate beyond a depth of eighteen inches, the worse it is for the health and fruitfulness of the vine.

R. G. PARDEE, of New York city, next lectured on Berries. Mr. Pardee has had several years of experience in the cultivation of small fruits and berries at Palmyra, N. Y. Mr. P. is a gentleman of middle age, of a slender figure, and a nervous, enthusiastic temperament, and possesses a happy faculty for extemporaneous speaking. He exhibited much practical and scientific knowledge, and gave two very instructive lectures, free from errors and absurdities, delivered from notes, in a very concise, intelligible and acceptable manner. Mr. Pardee, in fact, presented a very excellent model for lectures of this kind, saying much in a little time, of a purely practical and useful nature, without circumlocution or irrelevant words. Very little knowledge can be communicated in a lecture of one hour, at best; if the speaker be ever so careful to condense his style and matter; but when the speaker allows himself to be drawn off, by questions or otherwise, into irrelevant matters, the lecture must greatly suffer.

The principal things we learned from Mr. Pardee's lecture were, the value of deep and thorough pulverization of the soil for the strawberry, and by this we mean a degree of working beyond anything we have ever seen or practised, and the usefulness of tan-bark mulch only half an inch deep to keep down weeds. The tan-bark mulch we are all familiar with, but generally we think of using it thicker than half an inch, or apprehend that it will cause mould or fungus growths, and invite insects. Mr. Pardee says, if not spread too thick, it will not do injury, and will greatly save the labor of weeding and cutting off runners.

Mr. Barry, of Rochester, suggested, that to get a good second crop from the ever-bearing raspberries, the first crop should be removed as soon as the fruit is formed. The idea is a very timely and valuable one.

LEWIS T. ALLEN, Esq., of Black Rock, Niagara Co., N. Y., was the next lecturer. His subject was, The Apple. Mr. Allen is

well known to our readers as a writer on Agriculture, Stock-breeding, Rural Architecture, and Fruit Culture, and as an active member of Agricultural and Horticultural Conventions. He is a very intelligent, earnest and useful man; albeit, he is sometimes a little rough in manner, and a little dogmatical in tone. But he is of great service in a meeting like this, in exposing follies and absurdities, and bringing out facts in opposition to theories.

Mr. Allen is a large man, upwards of fifty years of age, about six feet high, with broad, square shoulders, a large head, covered with a mass of dark iron-grey hair, large, bold features, and a generally ponderous character, as expressed in his countenance and manner. He is a man whom it is very hard to keep quiet while any nonsense, or what he esteems to be nonsense, is being pronounced, and in pomological lectures or discussions. At such times, his whole body is tossed about on his seat, and the muscles of his face twitch and jerk, as if he were in spasms. And then up starts Mr. Allen, with the not over-polite exclamation, "You may say that all this is thus and so; but *there is better!*"

As a lecturer he appears to better advantage than as a debater. He writes and speaks well, and to the point, and draws from the large store of his experience and observation a vast number of useful facts. He exhibits, also, much delicate taste and refinement of feeling and imagination, and even polish of style, and a rich fund of wit, of grotesque character, but highly useful to enliven and illustrate his remarks. His lectures on the Apple were both excellent, especially as adapted to the farmer, rather than the garden-pomologist.

Mr. Allen seized the opportunity of being upon the stand to make a digression upon the dwarf pear controversy, which he reviewed and considered at much length. We understood him to say that the pear was a long-lived tree, as a standard, under simple orchard culture; but that he still did not consider the budding upon quince stocks as a very useful process, unless for garden culture, and even there he did not think any great success had been attained, except by a few persons near Boston. We thought, however, that he had moderated his tone considerably since the newspaper war on the dwarf pear in 1858.

P. BARRY, Esq., of Rochester, gave us two very valuable lectures on the Nursery and Orchard management of Fruit Trees. No better, more fresh, or useful lectures than these were given during the week. Mr. Barry is, in fact, admirably qualified to give instruction to all classes engaged in fruit culture. His opportunities for experience and observation have not been second to those of any man in this country in respect to the propagation and cultivation of fruit trees, and no one that we know of has met with a higher degree of success in this work.

Mr. Barry is in the prime of life, a bright, keen-looking man, with glossy black hair, black whiskers and moustache, piercing black eyes, an energetic, business-like manner. He is a good writer, and a good extemporaneous speaker, and reads his lectures in a distinct and emphatic style. He is very careful in his statements, and what he says may be relied upon with much confidence. We think his lectures ought to be published in full. They were somewhat new in scope, especially in the parts relating to nursery management, which is a subject seldom touched upon by writers on horticulture. Mr. Barry gave us much information respecting the management of trees in the nursery, exceedingly useful to fruit-growers, as well as to nurserymen. Much of it, however, was extemporaneous, and, we presume, was not included in the written notes.

Mr. Barry advocated the preparation of the soil for the nursery and orchard by ploughing and subsoiling to the depth of eighteen inches, and cross-ploughing and subsoiling when necessary, (and under-draining, if needed,) as amply sufficient in good soils, without trenching and turning up the subsoil three feet deep, as some have recommended. He also opposed very deep planting, and the use of highly stimulating manures, for pear trees on good soils.—He manures his own pear trees with old compost of peat and manure every year, applying it in the fall. His soil being highly calcareous, he uses no lime. Wood ashes he thinks very useful.

GEO. B. EMERSON, Esq., of Boston, addressed the convention on Forest Trees and Arboriculture. Mr. Emerson is a highly cultivated and accomplished gentleman, who has devoted many years to the study of forest trees, and other shade and ornamental trees, in this country and in Europe, both in their economical and artistic aspects. He is an eminent scholar, and a man who possesses the taste of a poet and an artist, as well as the skill of the landscape-gardener. He is a man of ripe middle age, with a head like that which is generally given to Faust, without the grossness of the traditional model. But it is a head as capacious and pregnant of wit, and like it in the outlines and the arrangement of the hair. His manner of lecturing is somewhat formal, and his style may be thought by some excessively over-refined and elaborate; but it is a style suited to the subject, which deals with the elements of beauty and sublimity, as displayed in nature and in art, and hence must be elevated, refined and artistic, in order to discuss it in a proper manner.

We regret that we did not hear Mr. Emerson's second lecture on Shade and Ornamental Trees and modes of cultivation, as we feel sure that the practical part of his subject would display him in a new light to his hearers.

Practical landscape gardening—that is, ornamental planting—Independent of the higher principles of the art, is a subject that

Professor Porter should not neglect to provide for, in conjunction with the Pomological Course, another year.

THE LEVER.—On Thursday evening, Feb. 8th, Professor Woolsey, of the Yale Scientific School, invited the members of the Agricultural Convention to attend a levee, given by the professors and students of the Scientific School, with their ladies. The reception was held in the College hall, and was pronounced by all who attended a delightful affair. Prof. Silliman, the elder, received the guests, and they were entertained by the students and a number of ladies in a manner at once elegant and unostentatious. A collation was also provided, of a rich and inviting character, set out upon tables decorated with the choicest flowers from New Haven conservatories, and many pleasant acquaintances were formed and renewed in the course of the evening. Many gentlemen were also invited to private dinner parties. The museums of the College were thrown open to their use, and they were invited to visit the fine gardens and greenhouses in the city.

The Pomological Lectures closed on Saturday, Feb. 11th. The following week lectures were given by J. S. Gould, on Grasses; Joseph Harris, of Rochester, on Wheat and Indian Corn; T. S. Gold, on Root Crops; Prof. W. H. Browa, on Tobacco and Hops; Levi Bartlett, of N. H., on Sandy Soils; Luther H. Tucker, of Albany, on English Agriculture; and Hon. H. F. French, on Drainage. The fourth and last week, lectures were given by Cassius M. Clay, of Kentucky, on Cattle; Lewis F. Allen, on Stock-breeding; Chas. L. Flint, on the Dairy; Sanford Howard, Ambrose Stevens, and Dr. D. F. Gulliver, on Horses; T. S. Gold, on Sheep; Mason C. Weld, on Agricultural Associations; and Donald G. Mitchell, on Rural Economy.

This list presents a formidable array of names and subjects for a series of lectures, and every reader must perceive at once that the discussion, in the hands of such men, could not fail to be highly instructive to a young farmer, or an old one, if he had sufficient intelligence to comprehend and profit by it.

Prof. Porter certainly deserves great credit for commencing this novel and effective method of exciting an interest in the subject of agricultural education, and we feel assured that this is but a small beginning of what will in a few years be a grand system of public instruction in connection with the Yale Scientific and Agricultural School. Men in middle life, who become interested in rural pursuits, will discover that it is not too late to obtain a great deal of the scientific and practical knowledge which appertains to agriculture and horticulture, while they will, at the same time, see the advantage or even necessity of placing their sons at a Scientific School, if they desire them ever to become eminent and skillful in the practice of even agriculture. We think, after the plan and character of these lectures become known, that five hundred tickets at least may be sold for a full course next winter, besides tickets for single lectures.

A new College building and hall expressly prepared for this Scientific School and these lectures, has been erected, and will be in readiness for the next course of lectures, and many conveniences, especially in the way of illustrative apparatus, will, no doubt, be provided. We are assured that the enterprise is in the hands of men who possess ample means and high professional character, that there can be no doubt of the ultimate success of the project. We should feel it not only a duty, but a pleasure, to give it all the aid and encouragement in our power. We believe such an Annual Convention of practical men from all parts of the United States, lecturing upon and discussing topics connected with agriculture and horticulture, giving the results of personal observation and experience, will do more to promote our national progress in these important pursuits, than any State Schools, Agricultural Bureaus, or other means ever yet projected. H.

Horticultural Societies.

MEETING OF THE EASTERN PENNSYLVANIA FRUIT-GROWERS' SOCIETY AT LANCASTER.

Feeling that this infant association is destined to be of vast benefit to the horticultural community, though our own duties are sufficiently onerous to demand all the attention we can bestow, we could not resist the temptation to "run down" to this "ratification" meeting. The day was inaugurated by a severe snow storm. The railroads were blocked up, and the trains delayed for hours. Surely, thought we, the love of fruit-growing and pomological knowledge will not triumph over such obstacles. But how agreeable was our disappointment to find the large hall of the Cooper Hotel filled to overflowing with intelligent members from all the eastern and central parts of the State. We congratulate the worthy President and other officers (who have been re-elected) on their success, and trust they will not falter under the great load of good they are evidently destined to accomplish.

Our report, being made from our own notes, is necessarily brief and imperfect. In future they will appear officially.

At an early stage of the proceedings, Mr. Peter Crane, of Montgomery Co., was invited to give the history of

THE MAXATAWNY GRAPE.

He said he first heard of its growing on a farm at Camp Hill, Montgomery Co., Pa.; went to see it; found it growing over an old plum tree, thought the white fruit good; took them to the editor of the *Germanstown Telegraph*, who confirmed his impression; took them to Dr. Frinckle, who thought them excellent, as also did many members of the Horticultural Society to whom, at the Annual Exhibition, they were freely exhibited. This was four years ago. Mr. Craus feelingly alluded to the insinuations that had been made in some journals, that he was a speculator in the vine. He had bought the right to the fruit from the owner, in order to control the right of gathering them when ripe; but he had freely and gratuitously distributed eyes all over the country, without a thought of remuneration, and now had with him a bundle of cuttings, which he would give to all the members present who desired them. The name of the party who has the original vine was purposely kept back, in order to prevent the intrusion of the "curious impertinent," which the history of other fruits has shown to be a serious annoyance to a retired individual. And this is the only "mystery" in the matter. After other business matter had been disposed of, questions for discussion were in order; and first—

CAN FRUIT BE PROFITABLY GROWN FOR MARKET IN COMPETITION WITH OTHER STATES?

Mr. Harvey, of Jennersville, made an interesting address in the affirmative. Mr. Hiller thought only in a few favored localities; admitted they could years ago; now thought climate had changed to fruit's disadvantage, April weather especially. Formerly farmers in his locality (Conestoga) turned out their cattle to pasture on the 1st of May; now they were not able to do so till the 1st of June. Some seasons the hill-tops bore good crops, while the valleys failed; at other times the case was reversed.

Mr. S. Miller thought climatic changes could easily be regulated by planting for shelter, to replace the good effects of forests cut away—would plant evergreens. Fruit could be grown profitably in his county (Lebanon). A friend, the past year, had netted \$150 from two acres of apples. Farmers want too many crops—fruit and grain; spoil both. He would rather leave it in sod than crop an orchard; knew orchards in grass, that were heavily manured annually, generally to bear well. He spoke of the Kiem apple as having been brought thirty years ago to Berks from a tree growing originally at Lancaster. He had \$250 worth of strawberries from one-fourth of an acre, at an expense of about \$50. He praised the Focht and Kiem apples for their general good qualities.

Dr. Parry compared fruit-growing in Lancaster County in 1837 with the present day, to the advantage of the latter. Strawberries then would hardly sell at 12 cents per quart; now fine ones found a good sale at 37. Mr. Hiller had got \$350 from 1½ acres of strawberries. Mr. Rutter has raised peaches at West Chester to great profit. He thought the seasons had not changed in one part of the States more than in another. A few days in blooming time made a great difference in the crop. Sometimes there were fifteen days of difference in the time of flowering; none in ripening. In 13 years always gathered Early York peaches about from the 4th to the 6th of August. On different aspects, so as to make but three days' difference in the time of flowering, he had even seen it make a difference between a crop or no crop. Thought difficulties were not in the climate, but diseases were constitutional, which good cultivation, selection of good sites and proper soil, and, above all, good cultivation between the trees, of which he was a warm advocate, would, in a great measure, remedy. Mr. Whiton recommended the selection of good-bearing varieties. He spoke of a tree in his part that always bore—frequently forty bushels from the one tree. Dr. Eshleman had 28 quarts of strawberries from 60½ square feet. Mr. Gray knew an orchard of peaches adjoining where Mr. Rutter's was, that was a total failure—it was never cultivated, while Mr. Rutter's was. Mr. Hiller still thought we should look to the climate for a good part of the modern troubles. His apple orchard did not bear well, and was as regularly cultivated and taken care of as any one's. Wild trees that always bore regular crops, do not do so now,—while the common phrase of "a good fruit season" showed the popular idea of the season's or climate's influence. Hubbartson's Nonsuch apple, he had found, generally does well. Dr. Kellar also thought the seasons had changed, to the disadvantage of fruit-growers,—while the intelligence of the fruit-grower had not increased in proportion; an evil he thought this Society would do much to remedy. More attention should be given to selecting late-blooming varieties, and other circumstances necessitating a change of practice, and success would be as good as ever.—Dr. Libhart remarked that failures generally occurred when young trees were planted on the sites of old orchards. Climate and aspect had much to do with the crops in different seasons. On one side of the Susquehanna River he knew an orchard of peaches to realize \$1000 from about two acres; when, on the opposite side of the river, the same season there were none.

Dr. Parry spoke of peach trees on his father's farm, while he was a boy, as large as his body. On the same farm now they live only about seven years,—thinks natural fruit the hardest. Mr. Hiller said, in his section as many natural fruit as budded were grown, all indifferent. Mr. Lukens Pierce: Apples bore as good average crops in the Cumberland Valley as in any part of the Union. His peaches had been growing finely for six years; no

crop worth speaking of, except Crawford's Late; they were now getting the yellows, fruit rotted about the time of ripening. His experience in orcharding was discouraging, but yet had hope. Had taken a tour of observation; found, where the summers were shortest, apples did best; Kentucky clay bore excellent apples; apples from mountain sides keep better than those raised in the valley. Had eaten Pryor's Red, in Virginia, from mountain sides, long after others from the valley were gone on the same farm of 600 acres in Virginia. Peaches do better everywhere in Pennsylvania than apples. Mr. Rutter observed that if nature does change climate, the changed climate produced new varieties to suit. The R. I. Greening apple seemed to thrive well in Pennsylvania, but ripened too early to compete well with the same fruit from the North. The peach orchard from which he had his best success was planted in 1848—a poor, slaty soil; then a clover sod. He had it ploughed and limed—occasionally ploughed, but never manured; it lasted fourteen years; it had various aspects. Dr. Eshleman: sixteen years ago, peaches produced every year in his neighborhood; has had but two crops the past eleven years.

INSECTS.

Mr. Engle, Jr.: The preservation of the birds was the best preventive against insects. Mr. Harvey had found hot water, as described in the *Gardener's Monthly*, an excellent method of destroying aphids and soft-skinned insects. Mr. Miller kept out the peach-worm by banking about the stems. Dr. Keller put boxes about his trees, filled with sand. Mr. Lelievre made some excellent remarks on the value and importance of birds. Mr. Libhart found the taste and odor of gas-tar, and preparations of soap, disagreeable to insects.

Mr. S. Miller gave some amusing anecdotes of curculio experiments by various acquaintances. One tied tobacco stalks to a pole, burned them, and poked about under a tree occasionally, for about sixteen days, and had an excellent crop of plums. Another succeeded by syringing with sulphur and soap. Had found hot water admirable for the cantharides on tomatoes, and squash bugs. Mr. Rutter thought the peach-worm did less damage than generally supposed; did not look after them much; they only penetrated beneath the bark; the apple-borer was worse; it went into the wood; the jack-knife was the best remedy; oil, tar, labor, etc., cost more than their value; advocated strongly the correctness of Miss Morris's views regarding the curculio being the cause of the plum knot. Birds were very useful: referred amusingly to an argument in some leading agricultural journal, that a certain kind of bird was entirely insectivorous, and therefore, rather than destroy them, it would pay even to feed them with grain through the winter; was one of the original Committee on the Mathew's remedy, and could not, of course divulge the secret; was free, however, to say that he did not find it successful; found salt applied under trees as far as the branches extended, a little benefit.

Mr. Stauffer urged the importance of the study of the habits of insects, and of insectivorous birds. Many other gentlemen took part in the discussion, but no new facts were elicited.

BEST SOIL FOR, AND MANAGEMENT OF, THE APPLE TREE.

Mr. Harvey suggested whether trenching and under-draining had not much to do with the success of the apple tree? Mr. Pierce had tried six years of good cultivation with an apple orchard, with such success, that he should in future lay it down in grass.—He thought the trees would do better. Mr. Rutter did not favor deep stirring the soil, except in soils impervious to moisture; preferred heavy manuring and cultivating with root crops; a good crop of apples was worth five crops of oats; regarded it very important in planting, to use dryish soil, and tramp in very firmly about the roots, to prevent the soil settling away from them. Dr. Eshleman remarked, that by trenching, the moisture was afforded a chance to rise to the surface by capillary attraction, in the driest time, and thus he thought all soils would be benefitted. The mechanical condition of the soil was of great importance. He would select nursery trees that were well branched from below; plenty of foliage on the stem made it stocky and strong; he would, therefore, cut back the lower shoots to an inch from the trunk, which would ensure a good crop of foliage from the spurs. The head he would cut back at a point that would ensure the production of three strong limbs, out of which to form the future head of the tree. These limbs should be as equally divided in space as possible. Cut out all but those required, preserving a leader while young, covering the wounds with shellac. At the end of the season cut back the three, and the leader; and when the new shoots appear, preserve three more to each last year's shoot, always looking after a leader. This practice will insure a symmetrical tree.—When the head was well formed, the side shoots and spurs on the stem were taken off.

DISEASES OF FRUITS.

Though the discussion was quite interesting, nothing new was elicited, except the suggestion of Mr. Stauffer, the Entomologist, that the cracking of the Butter pear might be owing to the larvae of very minute insects, which nothing but a very powerful microscope could detect.

CAN GRAPES BE PROFITABLY GROWN FOR MARKET?

Mr. Rutter thought, if they brought only three cents per lb., they would still be profitable; while the Isabella, by wholesale,

usually brought 10 cts. in the Philadelphia markets. The discussion was quite animated, many gentlemen giving their views, but no one appearing to have any experience of their own in marketing. The prevailing idea was, that it would be a good market crop. Mr. Engle alluded to the ravages of the thrip as a discouragement. Mr. Crans referred to an experiment now being made at Pottstown. A plot of fourteen acres has been trenched over 36 inches deep, and 28,000 cuttings of Isabella and Catawba set out. They were not allowed to bear for five years. The first crop was cut in 1858, and the beauty and size of the fruit were magnificent. Mr. Preston had been experimenting with wine the past season; found that three pecks of grapes made about five gallons of wine.

TRENCHING AND SUBSOILING.

Mr. Harvey had ground trenched about two feet deep, at a cost of \$60 per acre, and the crop of potatoes the following year was so heavy, as to repay the whole original cost. Mr. Pierce spoke of the relative value of horse-subsoiling and hand-trenching: A gentleman remarked that he had found horse labor, subsoiling eighteen inches deep, cost him about \$25 per acre; hand labor, twenty-four inches, \$65 per acre. Mr. J. Hoopes found, in subsoiling, it best for his grapes, to bring the substratum to the surface. Dr. Eshleman had the subsoil thrown out in his grape border.

REMEDY FOR THE CURCULIO.

A gentleman from Lancaster was introduced, and offered to the Society a composition, the secret of which he wished to keep to himself. It could be manufactured at a low cost, and the odor would effectually drive away curculio. He asked for a committee to test his remedy thoroughly. Dr. Libhart opposed the application. The Society was instituted for the purpose of giving information freely to each other, and should have nothing to do with "secret remedies." Mr. Rutter defended the application.—Any one, he thought, that would insure to the country a certain remedy against the curculio, would be entitled to the highest honor pomologists could bestow. The willingness of the gentleman to have it thoroughly tested before speculating on the spare cash of fruit-growers with a "certain remedy," was honorable, and he seconded the application for a Committee. It was adopted almost unanimously.

It was decided to meet again at West Chester on the 13th of June next.

Mr. J. Stauffer, of Mount Joy, was voted an Honorary Member, in consideration of the benefits he has conferred on the fruit-growers of Pennsylvania by the liberal use of his researches in the study of insects.

The *Gardener's Monthly*, as the only purely Horticultural periodical published in the district, was unanimously voted the organ of the Society. The investigations and reports of its working committees will appear officially in its pages. And the thanks of the meeting were voted to the *Germaniston Telegraph, Farmer and Gardener*, and the other agricultural and family papers that had so liberally noticed and encouraged the establishment of the Society.

NEW HAVEN LECTURES.

The interest that these lectures have excited induces us to give a very condensed abstract of them, and we regret that our space will not admit of their being given in full. That on *VEGETABLE PHYSIOLOGY*, by Mr. Eaton, was very interesting. He described the Vegetable Cell as a closed vessel like an egg, and is composed of an outer solid membrane which contains a fluid, and matter floating in the fluid, or attached to the sides. If this body, which is termed a *urlicle*, remains closed throughout its life, it is called "a cell;" if the sides of several adjoining cells disappear, and the series is arranged into a tube, it becomes a "vessel." Cells are the base of all vegetation. The diameter of cells average from 1-200th of an inch, up to 1-250th. The membrane covering cells is of different toughness. In the sea weed it is very soft; in ash, hickory, and mahogany, very hard; and in vegetable ivory, harder still. Cell membrane never dissolves in water, but swells. It is called "cellulose," and is composed of oxygen, hydrogen and nitrogen, chemically written thus: C. 12; O. 10, H. 10. The spaces between the cells of a plant are filled variously. Sometimes with air; in the common red cedar with minute grains of red aromatic resin; in sumac, with a thick milky sap, and in other plants with gums. The contents also of cells vary. The growing cells of some plants, as asparagus, are more nutritious, because they contain some nitrogen, which goes toward making muscle in the animal body. A granular matter, a viscid fluid, sap (which is almost water, but contains sugar sometimes), and the green leaf-color, known as chlorophyll, are always contained in the cell. Starch, too, is sometimes there, and each grain of it is organized, and so organized *sui generis* for each plant that the paternity of any specimen of starch could be readily traced. Botanists divide plants into two classes as a general thing—viz: 1, cellularly solid, and 2, cellular and elongated together. There are two grand divisions in the plant world—the flowering and the flowerless. The former have elongated cells, but the simpler of the latter class have not.

DR. FITCHES' *Lecture on Economical Entomology*. The Doctor expressed his belief that the difficulties of orchard culture was more traceable to insects than any other cause; and made an

earnest appeal to all engaged in the culture of the fruits of the earth in behalf of the study of his favorite science.

Prof. JOHNSON on the *Proximate Elements of Plants* was very interesting. Speaking of the vegetable albumen which may be extracted from the common pea, he said that in China they soak this vegetable in water to separate the albumen, and by adding a little plaster of Paris precipitate it, after which it is pressed into cakes, dried, and sold under the name of taffo, but is really "pea cheese."

DR. FITCHES' Second Lecture on *Insects* was very interesting. He said there are 60 different insects which prey upon the apple, 12 on the pear, 16 on the peach, 17 on the plum, 35 on the cherry, and 30 on the grape. The curculio, or plum weevil, is a native of our country. Notwithstanding the volumes written upon it, we do not to this day know where the curculio lives and what it is doing for three-quarters of the year. The loss of the apple crop by curculio he said was as great as of the plum. After examining the black-knot in every stage, he says emphatically that it is not caused by an insect, nor is it a vegetable fungus, but purely a disease of the tree, like cancer in the human body. The curculio breeds in it, as do also other insects. Dr. F. found larvae of curculio in the bark, where there were no knots, as well as in them. No available remedy against the curculio was suggested.

Prof. JOHNSON'S Second Lecture on the *Atmospheric Food of Plants*, created much attention. He referred at length to the well-known fact, that the greatest part of a plant was derived from the carbonic acid in the atmosphere. He startled the agriculturists by the avowal that the stiffness of straw is most decidedly not owing to an abundance of silica on the outside, but to "the denseness of cellular tissue in the stalk." This he considered proved in the fact that we get from the leaves of the oat and other plants a greater proportion of silica than from the stalk, and yet all leaves are pliant and soft. He further said that the atmospheric elements of the soil are not necessary to production, but are necessary to such rapid development as the farmer needs. Solubility of the mineral elements must exist in order that the plant may take them up. According to a new theory recently put forth, this is not so, but the rootlets of the plant take in solid matter, and the plant, by its vital force, transforms it into nourishment. This, however, is impossible. Ammonia is rapidly absorbed by the soil, and the farmer need not fear the loss of this valuable element of manure after the manure is incorporated in the soil. Nitrates, however, are not so easily taken up. But the physics of the soil are, after all, more important than its chemistry. A few years ago, chemical analysis was going to do great things for the farmer. He had only to send a piece of his poor pasture to the chemist's laboratory, to be told precisely how to make the rest of it as good as his garden. But it has been found that certain elements, without which, the plant cannot perfect itself, may exist in the soil in sufficient quantities for the plant, and yet be beyond the reach of the chemist. Chemical analysis pretends not to find a less fraction than the 1-1000; an acre of soil one foot deep will weigh 2,000,000 lbs.; an ordinary wheat crop will take off only 200 lbs. of mineral matter, allowing one-half of this to be phosphate, and we have only one twenty thousandth part composed of that element or quantity—too small, it may be, for the chemist to find. Four hundred pounds of guano, containing say one-fifth phosphates, applied to an acre entirely destitute of phosphates, would make all the difference there is between a good crop and no crop at all; but this eighty pounds, distributed through the two millions of soil, would be too trifling a quantity for the present state of chemical analysis to detect. Besides, this is too expensive for the farmer; nor does he need it, for the general deductions of the chemist are of more value to him than any particular analysis of his soil.

The fineness of the particles in any soil is an important point. A Boston chemist found a barren New Hampshire sand, to show the same analysis as a specimen soil from the Sciota Valley, one of the richest localities in the world; but the former was heavy and coarse, while the latter was an impalpable powder, flying away upon the slightest breath. It would take a pretty strong breeze to raise some of our New England soils. A soil, too, must have the right elements ready for the crop in a state of solubility as it goes along. The elements may be there, but if the crop cannot get hold of them they are valueless. Exposure to the atmosphere has a tendency to remedy that. The absorbing power of the soil is great, but this power depends on the minute division of its particles. The effect of the sun is different on different soils. To the vineyards on the Rhine, a black slate is often applied, to ripen the fruit earlier; charcoal does the same thing. This is not because black attracts heat, but because it has the power of converting a heat of great intensity into one of less—a heat of low intensity having a greater penetrating power. The heat of the sun is what is called a white heat, like that of a red hot ball of iron, and the slate transforms it into a heat which more resembles the heat from a ball of hot water.

MR. GOODRICH'S Lecture on the *Potato Disease*. He gave all that was known respecting the disease, and gave it as his opinion that it was caused by a lack of vital energy in the plant. The cellular tissue being weakened, passes into a state of fermentation, and mildew follows.

MARSHALL P. WILDER, on *American Pomology*, spoke with his usual brilliancy and intelligence. Of 72 pears enumerated by Quintinye, the gardener of Louis XIV, in 1650, only two are now recommended as worthy of cultivation in our country—so much

more sensitive had our taste become. In 1828, there was not a single horticultural society in the United States, and scarcely an agricultural one; now we have over one thousand of the latter and fifty of the former. The grape had increased wonderfully in consumption; one dealer in Boston produces annually from the wild grapes gathered on the banks of Charles River, 20,000 gallons; Connecticut manufactures 200,000 galls.; Ohio, 800,000, and one vigneron at Los Angeles, Cal., turns out 65,000 galls., or about 2000 barrels of good wine. Climate influenced the quality of fruits. The failures in fruit growing were mainly attributed to bad selection of soil and varieties, injudicious treatment, or bad cultivation. All soils are not suitable for fruit orchards, nor are all kinds of fruit adapted to every locality. Mulching the ground about trees with either straw or rotted compost, he thought an excellent plan. An orchard should always be kept free from grass and weeds, and no crop be grown between the trees, for fear of starving them. Trees once grown, there should be no plowing deeper than 3 or 4 inches, and not even that where the roots would be disturbed. The trees and plants of a country flourish better there than elsewhere. Hence, all our efforts are being, and should be put forth, to get new native sorts of first quality. He was decidedly in favor of putting the pear on quince stocks, and he was glad to know that some who formerly were bitter in their hostility to the practice, were now of his opinion.

LEWIS F. ALLEN'S Lecture on Fruits. He did not think the pear well adapted to this climate. In some places it did well—in these it was very well. He named particularly along the Detroit River. Very refined varieties of superior quality he thought more liable to disease than others. With regard to dwarfs, he said the pear has been grown on the quince in Europe for hundreds of years; Normandy and Belgium were its proper home; and yet in those countries and elsewhere pears were dear and a precarious crop. Mr. Allen thought it would pay any one to cultivate dwarf pears in his garden, and perhaps, if soil and climate exactly right could be found, a man might be warranted in venturing upon field culture.

DR. GRANT, in his lecture, advanced some new hypotheses. He doubted whether there were more than one species of American grape. The Herbemont section he believed traceable to an European origin. In the management of the vine, he laid great stress on the pruning as of first importance. Shoots are the growth of one year, and are so called from the time that the opening bud in Spring has developed its first leaves until it has completed its year's growth, and is ready for the pruning knife. When cut back to one bud, the stump is called a short spur, when cut to three or four, a long spur; and when left with more than this number of buds it is a cane, except when peculiar circumstances give it a special name. When two shoots spring from a stump near the ground, and are destined to have bearing shoots grown from them, they are termed thighs; and such, when laid horizontally, are sometimes called arms. The objects of pruning are: 1st. To restrain the roots and branches within convenient limits for cultivation. 2d. To concentrate the strength of the vine, and not suffer the production of useless wood and foliage. 3d. To get just enough wood to bear full crops of good fruit, and plan its distribution with reference to the health of the vine. There are three kinds of buds—the primaries, which come at the axis of the leaves, or where the footstalk joins the shoot, and which, in bearing vines, are the fruit buds one season, and the next produce the shoots on which fruit is borne; the secondaries, which come in the side shoots, or laterals, and which are removed in Summer pruning, and the adventitious buds, which are unseen, until they burst through the bark of the former year's wood. They are called wood shoots, as they produce no fruit except in a few varieties of remarkable productiveness. A bunch is a productive tendril; a tendril, an abortive bunch. The points or ends of bunches should be cut off, as this causes a complete ripening and sweetening of the upper grapes and prevents the growing of shriveled berries at the point, which is a sheer waste of substance. If a vine is left to itself to grow, the tendency of vitality is upward, the fruit gets beyond our reach, has a coarse quality and woody flavor, while the buds near the ground soon perish, and no after care can revitalize them. It is scarcely possible to fix the duration of a well-set vineyard; it may as well last 1,000 as 100, or a score of years. The vine needs moisture ever, wetness never. Nitrogenous manures are good if well rotted and composted, for they attract moisture, and a well prepared grape border is never dry in even the hottest seasons. If ripened too early, grapes lose flavor, and if the grape-grower is so far north that he is forced to lay down his vines through the winter, he is amply repaid for his trouble in increased flavor and quality of product. The best methods of laying down vary: a mere covering with boards is enough to guard against slight frosts, but with the additional precaution of covering with sand one is perfectly safe in the worst places. But a slight covering is necessary—just enough to guard against having the sand wash or blow off and expose the vine, and two or three inches of depth is enough. The whole vine should be covered. If the vine is as large as a man's arm, it will still readily lie down if it has been so treated from the first.

MR. LEWIS F. ALLEN'S Lecture on the *Apple* afforded some useful statistics. He complained that the census statistics embraced no information on the fruit crop; and yet, after careful computation, he was convinced that its aggregate value could not be less than \$26,000,000. Ten counties alone, in New York State gave an

average of \$200,000 each. Niagara County, only 25 miles square, yielded \$250,000 worth of fruit in 1899; Orleans, \$200,000. Wayne gave of green apples \$105,750 for exportation, and \$25,000 more for consumption, and \$55,000 in the dried state. The crop of all New York is about \$6,000,000. Of New England, \$1,000,000, Ohio, \$3,000,000, Pennsylvania and New Jersey, \$3,000,000, the North-Western States, \$4,000,000, and the Southern States, \$6,000,000 in all.

MR. PARDEE'S Lecture on *Small Fruits* was replete with interest. The Raspberry, he said, likes a moist, cool location. The northern slope of a hill, or the north side of a fence is best. The soil should be a gravelly loam, and be made very rich with rotted manure. This same treatment is appropriate to the gooseberry and currant, but not to the strawberry. To preserve raspberry stakes, he kyanizes them. A solution made of one pound blue vitriol to twenty pounds of water, and used for soaking the plants or whole length of your stakes, will make them last almost forever. The proper way to gather Lawton or New Rochelle berries for the family, is to jar the canes with a hammer, and catch the berries which fall. The others—and these are those sent to market—are not fit to eat. Never leave more than three canes in a hill, and have no suckers growing near the bush, if you want fruit. Cut back your canes as soon as they have borne their crop, pinch off the ends of the shoots in September, and again in Spring; by which plan you will throw the strength of the vine into fruit-bearing on the laterals. The Cranberry, on bog lands to which a dressing of sand has been added, should give 50 bushels per acre the first year after planting, 100 bushels the next, and so on up to 450 bushels as a maximum. He said that, if compelled to choose one alone of the small fruits, the currant would be his favorite, as much of a strawberry man as he was.

For Dr. Grant's Second Lecture, Mr. A. FULLER was substituted through the Doctor's illness. Mr. F. spoke of grapes, with regard to their pruning and culture. Even with a choice grape, its quality and profit depended in a great degree upon the cultivation and pruning given to it. In Summer, during the season of active growth, the liquid portions of the sap are exhaled almost as fast as they can be absorbed by the roots, and no great accumulation can take place in any one portion of the vine. But the leaves once fallen, the roots continue to absorb their appropriate food from the soil, and thus the wood becomes quite filled with sap, which is kept in store for early Spring use. It is therefore plain that we should prune our vine as soon as the leaves drop off, that the sap which is afterward absorbed may all go toward the nutriment of the buds which remain.

MR. BARRY'S First Lecture, *Orchard Management*. Whether Spring or Fall planting is best, Mr. B. said, depended whether the kind of tree ripened early in the Fall or not. Late growing trees were not successful when Fall planted. He planted the head at planting, and cuts smooth bruised roots. He plants shallow, in deeply subsoiled ground, and cultivates between the trees; never, however, coming within six feet of the tree at least, with the cultivator. Never allows the roots to be disturbed in any way. Surface-manures in the Fall, and forks it in in the Spring. Mulching in Summer is good. Standard Apple trees, 20 to 40 feet apart; Pears, Plums and Cherries, 20 to 30; Peaches 20. In exposed situations, plant hardy kinds in thick rows, in more exposed situations, Dwarf Apples, Pears, Plums and Cherries, 10 to 12. Dwarf Apples on "Paradise stocks," near as 6 feet even, and Pyramid Pears on quince, 8 feet. Of pruning, he said the only instrument used in a good nursery is the pruning-knife; and this should be kept so sharp that any ordinary branch may be snapped off at a single draw, leaving a perfectly smooth surface. Shears should never be used. A saw is only required when trees have been neglected. Branches removed should be cut close to the trunk, so that the tree may not be injured by decay of a stump. Shorten shoots to a good strong bud that will make a leader, not too close to nor too far from the bud, and with a sloped cut of about 45 deg. In shortening your leader, do not always cut on the same side, for you would thus make the whole tree lean one way or the other. Pruning, rightly done, is a blessing; wrongly, a curse. Fools cut away branches, indiscriminately, until their trees are but skeletons, with a few bearing branches at the extremities only. The force of the tree is then expended in producing a crop of rank, watery shoots in the interior, to be again cut away to make room for a second crop. Trees should never be suffered to bear fruit until they have got strength and vigor.

MR. BARRY, on *Nursery Management*. Twenty years ago, two or three small nurseries in the neighborhood of each of our large cities, occupying in all not more than five hundred acres, and a few other small apple nurseries of an acre perhaps each, supplied the wants of the United States and the Canadas. Now we have over 1000 nurseries; and in Monroe County, N. Y., alone, where he resides, there are three or four thousand acres, producing annually \$500,000 worth of trees. In the whole Union there are annually sold fifteen to twenty millions trees, for, say \$5,000,000. The surface for a nursery should be nearly level, and sheltered from cold winds. Spruce or Larch is good for shelter. Stony, very stiff and very sandy soil objectionable. Should be well drained. The drains should be never more than two rods apart, and were better to be laid at a depth of 3½ feet. In a stiff, retentive clay bottom, they should be only 20 feet apart. He deprecated planting a nursery too closely as detrimental to the health of the trees. Fruit

stocks should be thinly sown, and so managed as to be fit for working when one year old. To obtain strong quince stocks, plant out a certain number of stool or mother plants in a deep, rich, well-prepared soil; when they have stood one season, cut them all off close to the ground. The next season they will produce strong, smooth shoots, which, the following year may be earthed-up half their length, as celery is earthed-up, and in the Fall they will have rooted well enough to bear separation from the parent plant. If left on during Winter the frost will ruin them. Such stocks as these may be set in nursery row the next Spring, and budded the same season. Only two crops of shoots can be taken from the same stool, and a good dressing of manure is necessary to get even the second. Pears propagated on small, weak quince stocks are worthless. In budding or grafting quince stocks, it should always be done near the ground, so that the whole of the quince may be set under ground without being too deep. Root grafting, although still an open question among nurserymen, Mr. Barry believes to be, if properly performed, as good a mode for propagating the apple, and more especially all the strong growing sorts, as any other in use. It has been sadly abused, and thus been brought into disfavor with bangers and their victims.

Management of Young Trees—Trees are too closely planted as a general thing; three and a half feet between the rows, and three or four inches between the plants, is too little space to give either air, light, hardness of constitution, spread of root, or strength of top. For apples, pears, or other trees which are to remain two years in the nursery row, the distance from tree to tree should never be less than 15 inches for standards, and 24 inches for pyramids, and even at such distance the pruning-knife is to be freely used. Country people are too apt to value a nursery tree in proportion to its height, rather than its strength and proportions—a too common and fatal mistake. Cutting back should be freely practised, and the leader, or main stem, should be pruned as well as the side branches, else one will get a tall and ill-proportioned tree. An enormous amount of money is annually lost to tree purchasers from rude and unskillful taking up. Trees are torn up by the roots, as if the trunk and branches were the one thing necessary, and the roots superfluous. The proper way is, to open a trench on each side of the tree with a common spade, *keeping the edge toward the tree*, so as not to cross a root. These trenches should be far enough from the tree to avoid the main roots, and deep enough to go below all, except a tap-root, which may be cut off. This being done, the tree may be pulled up with its roots entire.

CINCINNATI HORTICULTURAL SOCIETY.

OFFICERS ELECTED JANUARY 1, 1899.

President, William Orange; Recording Secretary, E. J. Hooper, Corresponding Secretary, E. P. Cranch; Treasurer, Robert Clark; Librarian, T. F. Allen; Council for Three Years, J. H. Gelfard, S. W. Haseltine, Robert Reiley.

JANUARY 14th, 1899.

The retiring President, S. W. Haseltine, Esq., delivered his valedictory address, in which he gave a synopsis of the operations of the Society for the past year, and also much interesting information as to its present condition and future prospects. From it we gather that there are nearly six hundred members, and that the debt has been paid off, leaving a clear balance in the treasury. A lot has been secured in Spring Grove Cemetery, on which to erect a monument to those who have distinguished, or may hereafter distinguish themselves in horticulture.

William Orange, Esq., the President elect, then delivered his inaugural address. He estimates the income of the Society for the ensuing year at Two thousand dollars; one-fourth of which he recommends should be devoted to a fund for erecting a hall. He also expresses the hope that one of the City Parks may be obtained for the use of the Society. He alluded to the almost total failure of the apple crop last year, but said that this fact ought not to discourage any one, as, by his own experience, this is the first failure in sixteen years. He alluded feelingly to the death of Mr. John Savers, a useful member who was lost at sea, and also to the severe sickness of Mr. A. Ernst, which has deprived the Society of his valuable services.

COLLEGE HILL (OHIO) HORTICULTURAL SOCIETY.

President—Jacob Tuckerman.

Vice-Presidents—Rev. H. N. Day, E. G. Ricker.

Recording Secretary—Rev. C. E. Bubb.

Corresponding Secretary—D. B. Pierson.

Fruit Committee—F. G. Cary, E. G. Ricker, J. Hammitt, Rev. J. H.

Wilson, J. W. Caldwell.

Flower Committee—P. J. Klund, H. N. Day, Rev. W. H. Van Doren,

M. H. Litzburg, M. Georgi.

Vegetable Committee—Dr. J. W. Brooks, Charles Farnell, F. Jessup,

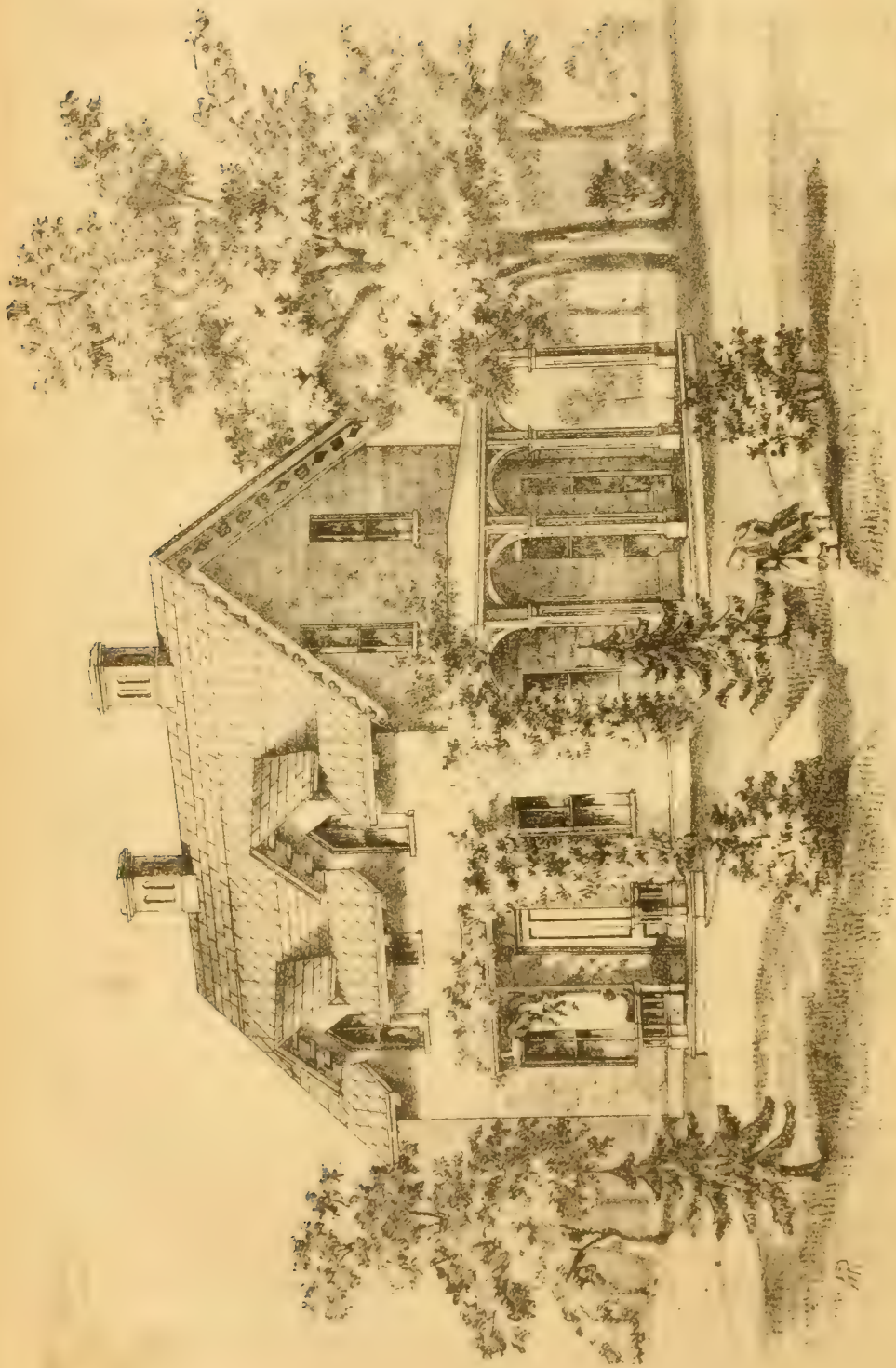
A. Grant, Eber Strong.

The Society is composed of about fifty members.

Very respectfully yours,

DANIEL B. PIERSON, Cor. Sec'y.





Max Rosenthal, Del.

Woodward & Co. Printers

GARDENER'S COTTAGE OR TENANT HOUSE.

By J. C. SIDNEY, Architect, Philadelphia.

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

APRIL, 1860.

VOL. II.—NO. 4.

Hints for April.



FLOWER GARDEN AND PLEASURE GROUND.

In preparing beds for flowers, *new soil*, where it can be obtained, is of great advantage. Some plants—Verbenas, for instance, soon get sick of the same earth. A moderately rich soil is also of importance, say about half an inch of well rotted manure, spread on the surface. If more than this be employed, and the soil be made too rich, a too free growth, and too few flowers may result. All this work should be advanced; but it is better to wait a little than to work soil when wet. If it stick to the finger on a slight impression, delay in working is advisable.

As soon as the weather seems settled, set out bedding plants—not fresh from the greenhouse or frame, but such as have been hardened a few days before setting out. Water the plants just before, and press the ball firmly in the soil after planting. Annuals are getting yearly more popular on account of their great variety, and the cheapness with which they may be obtained. A lady no more wants her flower garden to have the same look every year; here the same geraniums, there the same verbenas, and elsewhere the same patch of mignonette as she had last year—than she wants her new Spring bonnet to last forever. And to obtain this everchanging and pleasing variety, annuals are the very things for the purpose. But they must have good soil and careful attention, or the seed will be sure to be “bad;” a convenient term for neglect or bad practice in many instances. Very fine seeds may be sown quite on the surface, and a little moss, dried and powdered, spread thinly over the seeds. The common cause of failure is deep sowing. The nearer the surface, the better, provided they do not ever become dry—which is as fatal as deep planting. It is a happy practice that can just hit the middle way. Climbing

annuals are particularly interesting. Tuberoses are best planted out as soon as all danger of frost is over, in a rich, moist, warm, sandy soil, if perfection is desired. Roots that flowered last year will not flower again for two seasons.

Bulbs that have flowered in glasses or pots in the house, if planted out into the open ground as soon as their flowers are fairly faded, and before their leaves have become seared, will, if left in the open ground till next Spring, give a small bloom again; though, of course, nothing to be compared to the imported roots.

Planting of deciduous trees must now be proceeded rapidly with, and towards the end of the month commence with the evergreens. We advocate strongly pruning or shortening the extreme points of the branches at transplanting, not only of deciduous trees, but of evergreens also. It is one of the modern “revolutions,” to be able to speak thus of evergreen trees; the idea would have been laughed at not a half dozen years ago. Of course, there is a way to prune without injuring the symmetry or fine form of the evergreen tree, which a little practice will soon teach the amateur.

VEGETABLE GARDEN.

In the Southern States, the more tender kinds of Garden Vegetables may now be sown, Beans, Corn, Cucumbers, Squashes, etc., that it is not prudent to plant in this latitude before the first of May; and Tomato, Egg-plants, etc., may also be set out in those favored places. We notice that several of our friends do not report well of the Fejee Tomato; our own experience has been considerably in its favor, and we think a majority, at least of those who have tried it, think highly of it. Cucumbers, Squashes and such vegetables, can be got forward as well as Tomatoes, Egg-plants, etc., by being sown in a frame or hotbed, and potted off into three-inch pots; they will be nice plants by the first week of May. Rotten wood suits cucumbers and the squash tribe exceedingly well as a manure. Tomatoes and Egg-plants that are desired very early are best potted, soon after they come up, into small pots. They can then be turned out into the open air without any check to their roots; of course, they should be gradually inured to the open air—not suddenly transferred from a warm and moist air to a very dry one.

Bean Poles may be planted preparatory to sowing the Lima bean in May. Where bean poles are scarce, two or three hoop poles, set into the ground one foot from each other, and tied together at the top, make as good a pole, and perhaps better.

Dwarf Beans should not be sown closer together than two inches. The Valentine is still the most popular; a kind called the Early Butter came into use last season, and is valuable from the fact of its having very little "string," even when nearly mature.

Peas should be sown every two weeks to obtain a succession. There are few additions to the old stock amongst the early kinds; but in the later ones there have been some decided improvements. Harrison's Glory, Flack's Victory, and Fairbeard's Champion of England, have already got a good reputation here. Some new Marrowfats, that are dwarfish, are also improvements, at any rate in that respect, of which, Climax, Alliance, and Bedman's Imperial, are well spoken of. For those who have good sticks at command, a six footer, called Leviathan, and one nearly as tall called General Wyndham, has been introduced.

Lettuce, for a second crop of Salad, should be sown about the end of the month. The Drumhead Cabbage is usually sown for a summer crop; but the old kinds of Cos Lettuce would, no doubt, be found very valuable in rich soils.

Early York Cabbage for early use, should be set out early this month. It is an excellent plan to make the holes with a dibble first, where the cabbage is to be set, then fill up the holes with manure-water, and after the water has soaked away, set in the plants. It is rather more laborious than the old way, but the cabbage grows so fast afterwards, that it pays pretty well.

It is not a good plan to cut all the Asparagus as soon as they appear. A few sprouts should always be left to grow from each, to strengthen the plants.

Where Brussels Sprouts, Cape Brocoli, and Autumn Cauliflower are desirable, now is the time to sow. They require the same treatment as the general cabbage crop.

FRUIT GARDEN.

We have very few suggestions to add to those made last month. Fruit trees that have proved undesirable from any cause, may be re-grafted with more favored kinds. This is an advantage with some varieties—it takes an age, for instance, to get the Seckel Pear into bearing condition from a nursery raised tree, but by grafting it on one that has already "arrived at years of discretion," the advantage of placing a young head on old shoulders, in this way is soon made manifest.

Buds that were inoculated last Fall should not be forgotten, but as soon as vegetation has pushed forth, the buds should be examined, and all other issues from the old stock taken away. It may also be necessary to make a tie in order to get the young shoot of the bud to go in the way from which you would not have it hereafter depart.

Above all, do not allow the month to pass without posting yourself afresh on the various methods recommended for destroying insects, or preventing their attacks. The advantage of a stitch in time is never more decided than in the great struggle with fruit-destroying insects. A mass of information on these points lies scattered through our last year's volume, that will well repay a careful reperusal for the purpose alone of refurnishing ones ideas in that line.

In the other departments of gardening, the hints given last month are still, in the main, applicable; and in the path we have marked out for ourselves in these hints, namely, the suggestion of items that are likely to be forgotten, or in which improvements are from time to time being made, we have nothing further to offer.

Communications.

BUDDING WITH LAST SEASON'S WOOD.

BY G. MENDENHALL, RICHMOND, IND.

I tried, by way of experiment, to bud and graft a small lot of trees every week up till near the middle of summer, from old wood of last season, with reasonable success in both. Grafts put in after the leaves were full grown grew three feet. I shall try the experiments further this season. I think it may prove an excellent idea to fill up vacancies where buds get winter-killed, which is often the case here where we have so little snow to protect them.

[At page 49, Vol. I, we made the same suggestion, and are glad to have the corroboration of one of Mr. M.'s excellent experience.—ED.]

COLD IN VIRGINIA.

BY O. TAYLOR, PURCELLVILLE, VA.

Would it not be interesting to hear from different parts, where the *Monthly* circulates, of the temperature, especially where it is excessive. I should be glad to know how the peach buds are affected in other places. They are all killed in this county except the extreme higher parts; the mercury on the second of this month was 13½ below zero with us, and in one place, 16 below. It ranged from 5 to 16 below, at a variation of 200 feet elevation, being perfectly calm, it was the lowest in the deep valleys. I think it likely they are killed (the peach buds) at Washing-

ton, Baltimore and Wilmington in the open country, (but not in the cities, of course,) but I do not know.

I have never known it colder but twice here before—once at 18 degrees, and the other at 20 below zero. This time it was of so short duration that the effect is not so severe on large limbs as it was then, but many a person not used to the observations of temperature will be much disappointed next Spring, I presume, in not seeing a peach crop, and bloom of many tender plants.

DESIGN FOR A GARDENER'S COTTAGE OR TENANT HOUSE.

[See Frontispiece.]

BY J. C. SIDNEY, PHILADELPHIA.

The design is intended to meet what is often found a difficult matter, viz.: a cottage containing sufficient accommodation for a moderate sized family at a moderate cost, with a due regard to comeliness. A Gardener's house on a gentlemen's place is often required to accommodate assistants as well as the gardener and his wife. Sometimes a gardener's tastes go beyond fruits and flowers, and may require room for a family. A Tenant House, at any rate, in a place of any size, should always have room for an extra hand or two, indispensable at certain seasons.



GROUND PLAN.

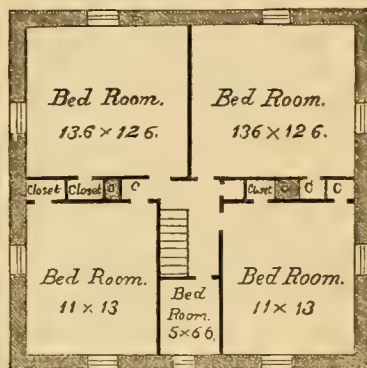
Such houses are generally either made too small, are costly, or are too pretentious.

The plan includes a cellar, and on the ground floor a parlor, office or library, large kitchen and back kitchen, and a dining-room or sitting-room with pantries. If not needed for other purposes, the office could be used as a bedroom. The second floor com-

prises four good bed-rooms, with closets in each, and a small room at the end of the entry, which could be used either as a store-room, or if needed, is sufficiently large to contain a single bed. Another bed-room could be built over the back kitchen at a slight additional expense.

The cost, if built of wood, with shingle roof, substantially but plainly finished, would be about \$1350 in the neighborhood of Philadelphia. If built of stone, laid as rubble and pointed, with slate roof, the cost would be about \$1550.

The addition of another story would double the sleeping accommodations, at a cost of about \$250, but would not improve the proportions.



SECOND FLOOR

The cost would vary according to the locality, but in no section of the country, probably, would it exceed the estimate made for Philadelphia, where lumber especially is high.

[We feel very much indebted to Mr. Sidney for his excellent plan,—excellent not only in the design itself, but also in the original idea. Gardener's houses, and other tenant buildings too often disfigure instead of adorn an estate by their pretentious character on the one hand, or mean appearance on the other. They should always express what they are:—gardener's or tenant houses, and not castles in embryo, miniature fortifications, or cheap tenements for the needy.—Ed.]

CHEAP AND DESIRABLE LABEL.

BY T. V. P., MT. CARMEL, OHIO.

The best and simplest Ink for Zinc Labels every man carries, as a general thing, in his pocket, which is nothing more than a black lead pencil. I have some labels marked in this way ten years ago, perfectly indelible short of scraping with a knife or scouring with sand.

DAHLIAS.

BY JOHN SAUL, WASHINGTON CITY, D. C.

Nothing is more common than to hear of dahlias recommended to be planted out about the middle of May; yet nothing can be more erroneous, if good, perfect flowers are desired. For this early planting large old ground roots are frequently used. As a consequence, they make an early and luxuriant growth,—are in full bloom by midsummer; hot weather is now upon them, which the dahlia does not like. They give, however, a profusion of imperfect flowers; are generally a prey to red spider, thrip, etc., and when Autumn arrives, are so enfeebled as to be incapable of producing a perfect bloom. Need we be surprised, after a few years of such treatment, to hear persons exclaim, "My dahlias degenerate?" They produce only single or semi-double flowers. This is just what a rational person may expect. "Degenerate" they will and must under such a course of treatment, and their imperfect blooming qualities become fixed. Animals degenerate under bad treatment; so will all kinds of fruits, vegetables and flowers, not excepting our favorite dahlia.

My mode of treating this flower is this:—Never plant out sooner than from the first to the middle of June. From the middle to the 20th is a good time. I have planted the first of July, and have had a good bloom. Manure and well prepare your ground before planting; use small plants in pots, of the current year's propagating; the most successful exhibitors use such plants only. As soon as planted, place a large stake to each, and tie as they grow. My reason for putting the stakes thus early is, to avoid injury to roots, which would take place after the dahlias had commenced growing. As the plants advance in growth, the knife should be freely used, cutting out at least one-half the bloom, as well as keeping the plants low. Under this treatment they will have no disposition to flower before September—a season quite congenial to the plant. Exquisitely shaped perfect blooms will be produced, faultless alike in shape, symmetry and size. I should remark, when the plants commence showing bloom buds, at least three-fourths, should be pinched off as they appear. Those which are allowed to perfect themselves will be superb. At the time of planting out, a deep mulching of half-rotted manure spread over the ground is of great benefit; and in dry weather, through all stages of their growth, they should be freely watered; if liquid manure is used occasionally, so much the better. With this treatment,—late planting, young plants, pruning, disbudding, and late blooming,—the good qualities of the dahlia become fixed, so that the good cultivator can, with almost a certainty, rely upon the production of flowers, exqui-

site alike in shape, symmetry and size, with every variety of color in perfection.

I could give a long list of superb varieties, but will confine myself to twenty-four, which the amateur may plant without the least disappointment.

PLAIN OR SELF-COLORED DAHLIAS.

- Cherub*, bright light orange yellow; a fine deep flower.
Col. Windham, deep rose, with a small bronze tip, fine shape.
Goldfinder, deep golden yellow; a large, useful show flower.
Hon. Mrs. Trotter, white, distinctly tipped and edged with rose; novel and attractive.
Lady Popham, white, delicately tipped with lavender; of the finest form.
Lollipop, salmon; shape nearly two-thirds of a ball, high centre.
Lord Fielding, nearly black, small, well-arranged petals, high centre.
Miss Pressley, white, heavily edged or picoteed with dark purple; a constant, new and pleasing variety.
Mrs. Church, deep yellow, tipped with lake; a full sized flower of fine form.
Rachel Rawlings, delicate peach, fine form.
Triomphe de Pecq, dark crimson, a large full flower, extra fine.
Village Gem, clear white ground, edged and tipped with rosy crimson.

FANCY DAHLIAS.

- Beauty of High Cross*, deep gold, heavily striped with rich crimson.
Carnation, white, beautifully and regularly striped with purple, constant.
Cleopatra, orange yellow, striped with crimson scarlet, good form.
Comet, dull red, mottled and striped, good shape.
Countess of Bective, rosy lilac, tipped with white, full sized constant flower.
Duchess of Kent, pale yellow, tipped with white; fine form.
Empereur de Maroc, maroon, tipped with white; dark and rich.
Lady Paxton, red, tipped with white; fine petal and form; beautiful.
Le Defi, orange buff, striped with lake; full size; good form.
Marc Antony, deep yellow, finely striped and marked with bright red; fine form.
Oliver Twist, the best purple and white striped fancy; very superior form.
Village Bride, pale yellow, striped with bright red; a full-sized flower, constant and large.

[It is very interesting to compare different experi-

ences of good growers under different latitudes. We last month gave Mr. Barnes' experience with the Dahlia at Dorchester, Mass., and now have the pleasure of inserting the above from Washington, D. C. —Ed.]

EXPERIENCE OF A FRUIT GROWER.

BY A NEW YORK FRUIT GROWER.

Catawba—With me the *Catawba* is hardier, and a stronger grower than the *Isabella*, and invariably ripens its wood and fruit in this locality, and when well grown it is a superb fruit, which in quality is surpassed by only a few of the new grapes, and is worth in market from three to five dollars per hundred more than the *Isabella*. Unlike that variety, the vine will not sacrifice itself to ripen or mature all the fruit that happens to set. Consequently, a part of the fruit will shrivel and drop from the vine, and a part attain full size but never color or ripen, and these, when cut open, will be found affected with the "rot," having black spots in various places, not unlike those we sometimes find in a potato.

It is probable that a damp soil or aspect, which does not have a free circulation of air, may induce the "rot," but the writer has had abundant evidence that it is also induced by crowding the vines too close, and by bad pruning, which causes it to overbear; vines that are not overloaded with fruit, seldom are troubled with the "rot."

This grape should be planted in a high and dry soil and not less than 12 feet apart in the rows, and the rows about the same distance from each other, and if properly pruned, that is, close enough to prevent overbearing, it will seldom suffer from the "rot;" and such locations are seldom visited by untimely frosts, which is important to the grower of this grape as it should remain on the vine until about the middle of October to perfect itself.

Clusters very fine and large, firm, and well adapted to late keeping or sending to a distant market. Stem almost as tough as wire, and can only be taken from the vine with the aid of the knife and will bear pretty severe frost without injury. This is the wine grape of Cincinnati; it is not grown on the Hudson as much as it deserves to be, and is much easier to grow than people generally suppose.

Diana—For many years this grape has been a special favorite of mine, and I am prepared to endorse all that its most enthusiastic friends have said in its favor.

With me its "constitution" has always been good, nor does it require the aid of sulphur to hold its foliage or perfect its fruit. I will venture the prediction that ten years hence there will be found in the vineyards of the State of New York, ten times as many of this variety as there will be of the newer and more vaunted kinds of grapes.

No grape grows stronger, or bears the intense cold of our winters better, and the writer never has had a vine winter-killed, nor does he know of a case of the kind, and it is productive to a fault, which is no fault when it receives proper treatment, yet never suffers, under any circumstances, from the rot or mildew.

It is earlier than the *Isabella*, and much superior in quality to that esteemed variety, and will hang long on the vine, gradually improving in flavor and beauty. Clusters compact and perfect, so much so that one rarely finds a defective berry. Firm and well adapted to store for winter use; they have been found as fresh and perfect in April as when first taken from the vine, and the berries adhere well to the cluster, which is highly important to the market grower, as no grape sells well unless it has this habit.

I have planted this variety quite extensively for the New York market, where it is fast growing into public favor, and highly appreciated by all who are acquainted with it.

It has all the characteristics of an American grape, and without doubt is wholly of American origin, as the leaf is of a firm and heavy texture, which enables it so well to resist the mildew, that inflexible enemy to the European grape in this country.

[We are very much obliged to our kind correspondent, not only for his communication, but for the subject. In spite of the legion of new ones, which may contain amongst them a better grape in every respect, than any of those named, it is yet to be tested, and we like to hear of our well known and time-tested kinds receiving a portion of public attention. —Ed.]

HORTICULTURAL CONSERVATISM.

BY H., NEW YORK.

Mr. Editor:—By the general tone of the *Monthly*, thus far, it seems your desire to make it a thoroughly practical paper; not to be at all invidious, I believe it to be a desideratum never before so well supplied to the readers of gardening magazines here.

Gardening, with us, perhaps more so than any other profession, is yet almost wholly dependent on Europe for its skilled workmen. Somehow or other our American youth do not take kindly to it, and we consequently have comparatively few American Gardeners. Hence, both in private establishments and in nurseries, the English mode of operations, to some extent, prevail. But with all admiration for the high degree of perfection that our profession has attained in England, yet I cannot refrain from questioning the utility of the manner of some of the every day operations, which are religiously persisted in from one generation to another without a question,

seemingly, whether a simpler and less laborious mode might not be adopted. For instance, the hundreds of acres of market gardens around London, are, I believe, nearly all turned over with the spade, just in the same manner, probably, as they were half a century ago, no one seeming to have hardihood or common sense enough to introduce the plough and harrow, which our necessities here, by the scarcity of laborers long ago compelled us to adopt for all similar purposes, and which, in my humble estimation, does the work *better* at about one-tenth of the cost.

When I say better, I speak advisedly, having had extensive experience in the culture of market gardens, where the improved kinds of plough and harrow are used wholly for the cultivation of the soil, except in angles where the team cannot turn, there the spade or fork is used, but not with the pulverizing effect of the plough and harrow. If this, then, is the fact, which I think few who have had proper experience of both will dispute, is it not the extreme of "conservatism" to persist in a method of cultivation that costs ten times as much with no better result?

Another matter of less importance pertaining to another department of the business, but one so universally practised, even here, that it arrests our attention. I refer to the useless, to me worse than useless, practice of "Crocking" the pots preparatory to the potting or shifting of soft-wooded plants. That the practice is nearly universal in England is evident, for we find that in our importations from some of the leading establishments in London, of the usual varieties of florists' plants, such as Dahlias, Chrysanthemums, Fuchsias, &c., all are done up in the regular orthodox style, with the inevitable piece of potsher in the bottom of each pot. It is true that many of our nurserymen and florists here dispense with this nonsensical formula, yet it cannot be denied that the majority still think it necessary to "drain" the pots in which they put their verbenas, geraniums, roses, &c.; but I must not be understood as condemning the draining of pots in whole. That it is, perhaps, indispensable in hard-wooded plants, and some few stove and greenhouse plants, is not questioned; it is the indiscriminate practice that is condemned. It may be urged that the time occupied in "draining" (?) a pot is trifling—which may be so in private establishments where only a few hundred pots are in use, but when a hundred thousand or more (as is the case in some of our florists' establishments) are passed through the hands in the course of three or four months, it is found that this small matter can very gladly be dispensed with. In this matter also, Mr. Editor, I write from experience; the establishment over which I have control, is one of the most

extensive in the neighborhood of New York, not a crock has been used, with my knowledge, for the last six years, and yet, Sir, if you or any of your practical readers would step in upon us now, and see the state of vegetation in our pits and greenhouses, if not already, you would at once become converts to our non-crocking doctrine.

[This communication, from one of the best plant growers on this continent, will attract universal attention, and we commend it to our readers' careful study. We have ourselves abandoned the "crocking" of all our commoner things for years past; not that we thought there was no positive advantage attached to the practice, but because we found there was not enough to make it profitable. But, as H. suggests, is there any advantage in crocking small pots?—Ed.]

FUNGUS OF THE CUTTING BENCH.

BY AN OLD PROPAGATOR.

During a twenty years' residence in the smoke and fog of London, I noted some few hints that may be useful in overcoming the troublesome pest—fungus.

I fear the construction of the *propagating house* is too often a matter of *secondary* consideration. A properly ventilated, well constructed house, however small, would save a great deal of unnecessary trouble and expense. I have had considerable experience with what is generally termed a *half-span* propagating house. This is in two divisions, heated by hot water, and standing due south. In the front wall are ventilators, running all the length of the houses, which, when opened in foggy or frosty weather, direct the currents of cold air to the hot water pipes. By this means the air becomes heated and purified before entering the house, and passes off at the ventilators on the highest point in the roof. I have frequently noticed, during a spell of dense, foggy, moist weather, that if we neglected to raise the heat in the pipes, and open the ventilators for two or three hours each day, we were almost sure to have some soft-wooded cuttings *damp off*, as the gardeners term it.

These few brief hints may suggest some improvement in the future construction and arrangement of propagating houses. It may not be convenient to have houses now built so altered; but in the mean time it is well to substitute the use of *charcoal*, instead of sand, for striking cuttings. It should be prepared and sifted until it resembles blasting powder, when it will be found to answer the purpose quite as well as sand. I have never seen fungi on it, and the only objection I ever had to its use is, that it is not so cleanly to handle as sand; but the man who is afraid of soiling his hands, has no business in the propagating house.

LAYERING THE GRAPE.

BY CASPAR HILLER, CONESTOGA, PA.

Every body, now-a-days, seems to be interested in growing grapes, so I presume any plan that will show how to increase plants expeditiously will meet with favor. My plan, however, is nothing new, but, like many old things that are really good, it is not as generally known or practised as it should be.

A few years since, I received from a friend a single eye of a new grape, which I planted in a flower-pot and placed in the room window. After it had grown a few inches and the weather had become fine, it was set into the garden, where it made about five feet of wood.

The following Spring the ground around it was well prepared, by digging and manuring; a trench made about two inches deep, the length of the vine, into which the vine was laid and pegged down to keep it in place. In this way the vine was left until the eyes had grown from eight to ten inches, when they were tied up to stakes and the earth was drawn around their base. This, as the vines grew, was repeated, until the layered vine was about six inches under ground.

The result was, that in the Fall when the vine was taken up, I had a plant for each eye, many of them ten feet long, and superior to any vines that I ever grew by any other process.

Another circumstance may be mentioned in connection with this mode of propagating. If strong vines are laid down, they will produce an abundant crop of fruit, (I have seen good grapes raised thus,) without injuring the young vine in the least. It will sometimes become necessary, with the short-jointed varieties, to take off the first bunch, in order that the layer can be covered deep enough.

[This, as Mr. Hiller observes, is an old method, but yet so much of a secret that but a few practise it, while "outsiders" look on and wonder. It is an excellent plan, and will be new to many.—ED.]

MANAGEMENT OF HORTICULTURAL SOCIETIES.

BY C.

My Dear Sir:

I agree entirely with you, that a well managed Horticultural Society is one of the greatest advantages any community can possess; but I must take exception to your further remark, that your humble servant is one of the best to illustrate those advantages that you know. For assuredly your circle of acquaintances cannot be so very limited. However, I am willing to aid your excellent and enterprising journal so far as you think I can, and will give you a leaf, as you request, from what you are pleased to

term the "book of my valuable experience." Certainly, I have taken a great interest in our Society in former years; and if not doing much now, it is not for lack of interest in the cause, but because I think younger blood should lighten the burdens of age in the management of such institutions.

At the outset of starting a Society, two objects present themselves,—first, to render it popularly a favorite, and financially strong; and secondly, to create and advance horticultural taste. The latter cannot be accomplished without the former is first achieved, and to that every effort should be first applied.

Most of this depends on the selection of a President. He should be a popular man in every sense,—well known to the community in which he moves, and of such a disposition, that others would love to flock round, associate, and work with him. Once chosen, he should be, in fact, *the* Society. Unless he takes a personal and active part in the business and workings of the Society, it will soon loose caste. It is any thing but an honorary position in a prosperous Society. The Secretary is the next important personage, and should be no less popular as a man of character and business than the President; and these two together should have the most to say in selecting the business committees who are to work with—I might rather say, for—them.

Having organized, no time should be lost in securing the popular support. The advantages it is to confer on the community should be clearly and *continually* kept prominent; and as "fashion" is a great power in the world, instead of ridiculing it, as is often done, to the ruin of many good Horticultural Societies, make it fall in with your views, and lend you its powerful support. You say it is your province to reform and correct public taste. True, and this is the way to accomplish it. Get fashion once to love you and flatter itself that it supports you,—your influence will soon be felt over it, and will become immense, and surprise even yourselves.

There are so many ways of rendering a Horticultural Society popular, that I need hardly descant upon them. Of course the exhibitions are one of the chief items. No effort should be spared to interest the *whole community* in them. Love of novelty is one great weakness with the public, and something of this kind should always be prepared for them,—not merely something that you can tell them is a novelty, but which they shall all *feel* is to them a novelty. For instance, if you could announce to them that a beet would be exhibited that would weigh 100 pounds, or a cherry large enough to admit of "two bites" being agreeably taken from it, or an immense "bank of flowers," formed of the plants from neighboring greenhouses, or a geranium that has one thousand flowers fully expanded, or even the State House re-

presented with dahlia blossoms, peach trees in 16-inch pots with 300 ripe fruit thereon, or pot grape vines one year old, with fifty pounds of fruit on them,—any thing, in fact, that is a novelty *within their own experience*. Prepare such treats for them, and be sure at the same time to *let them know that you have them on exhibition*, and they will flock to your meetings. Unnatural “designs of cut flowers,” “monstrous beets,” and huge “specimen” plants, are not, by a long way, the means to correct the popular taste. They are not to be employed for that purpose. They are but the traps to catch the hare before you can cook it. All improvement is to be done by offering prizes for other things in the line of progress. And in such a schedule of premiums the same general principle should be observed, namely: prizes should be offered for things that every body grows or can grow, instead of what the society thinks ought or might be grown.

The handsomest half a dozen plants grown in cracked teapots in a mechanic's window should no more be forgotten than the best ten orchids in a millionaire's hothouse; and the best collection of plants grown in four or six inch pots should be thought as worthy of encouragement as a tub requiring a yoke of oxen to draw it, or a Victoria flower, that wants a house for itself to grow in. While the showy and attractive is thus not forgotten, the real objects of the society must be continually borne in mind.

All this implies that there must be a great variety, and a large number of exhibitors, and their peculiarities must be studied as much as those of the public. In the first place, you must make them inducements to exhibit. The day is gone by when men work for the mere honor of the thing alone. They want both honor and profit. A successful society must offer liberal premiums, and well advertise the exhibitors' success afterwards. It must also obtain the confidence of the exhibitors that their goods shall be fairly judged; and to do this, the most competent judges should be secured. This is a very important point. Parties, male and female, who have never even seen many of the kinds of articles they are called upon to “judge,” are often selected, and the most absurd errors of judgment are committed, to the ruin of societies so governed. If competent parties cannot be found who can afford to leave their business to attend to these duties, it will pay to award them some recompense to ensure their attendance.

To sum up, Mr. Editor, I can only say, that to get up and maintain a successful Horticultural Society, you must get popular officers who will work, and who well understand how to make the society fashionable and popular,—who can draw in to their aid numerous exhibitors, and who, by liberally rewarding and honoring them, and guarding them from gross

errors of judgment on the part of incompetent judges, will retain their good will and favor.

In spite of the best management, societies will, at times, cease to be popular. In this I presume they do but follow a law which seems to prevail in all natural things, which seems to call for a period of youth, maturity, and old age,—not only amongst plants and animals, but in nations, communities, and societies. We cannot remedy this; but we may make our creations live to a good old age, and when their time is come to die, bury them with honor, and with a feeling of veneration for their past usefulness.

ACHIMENES.

BY E. PRIER, DAYTON, O.

About the first week in March, procure bulbs, (they can be obtained of most nurserymen and florists,) prepare six inch pots, clean and dry, *inside* as well as outside, fill one-third with broken potsherds or charcoal, fill the remainder to within one inch of the top with earth composed of sandy loam, leaf mould or a little cow-manure, the latter well decomposed; place on this five or six bulbs to each pot, equally divided over the surface, cover by filling the pot over with the same kind of compost, place the pots in a light-some and rather warm place in a pit, greenhouse, or even a sitting room where there are not too great vicissitudes of temperature. In a few weeks they will make their appearance over ground, after which, they should be well watered as often as they need it, the leading shoot pinched off two or three times during the season of growth, but not after the flower buds appear.

With this treatment they flower the latter end of August, and all the month September in the latitude of Philadelphia. The above treatment is best in the hands of ladies, and amateurs generally, but in the hands of the gardener the flowering season can be much earlier and more extended by starting plants in a frame or forcing house with bottom heat.

The best way of keeping the bulbs in winter, I have found, is, after the tops are thoroughly dried in the Fall by gradually withholding water, to take them out of the earth altogether and keep in a dry place where they will not freeze, the temperature not being lower than 40°.

The best kinds for a variety are, *A. longiflora*, *A. longiflora alba*, *A. grandiflora*, *A. picta*, and *pedunculata*; the latter, the tallest growing variety, according to my experience, requires a little more heat to perfect its flowers than any other, and *A. coccinea*, a pretty dwarf variety.

SURFACE MANURING.—Mr. Gardner, in the *Country Gentleman*, says one of the most prosperous farmers in New York State, has not plowed in his manure for the past twenty years, depending altogether on “surface manuring.”

NEW PLAN FOR GREENHOUSES.

BY W. C. STRONG, BRIGHTON, MASS.

Ice farming is now reduced to a system in New England. But the case was very different twenty years since. The pioneer and most enterprising man in this trade then asserted that it was as important to know what could *not* be done as what could. In imitation of early Babylonish husbandry, which attempted hanging Summer gardens, he conceived the idea of a suspended Winter farm. An immense "wooden" pond was accordingly constructed. But, whatever may be said of other farms, here was a case where the system of "thorough drainage" was too "thorough." In addition to this defect, by a curious freak of Nature, the pond, in a dry time, actually took fire and was consumed. Here was a case which proved what could not be done.

In this spirit of experiment, I conducted a glass house during the past season, and as I deem all experiments, whether successful or unsuccessful, to be of value, and rightly belong to the public, I send you an account of my experiment:

My site was a warm, sheltered side-hill, lying at an angle of about 20°. A strip, 100 feet long, and 56 feet wide was marked off and covered with a single lean-to roof. In other words, the side-hill was simply sheeted over with glass, having a back and end walls, and running nearly to the ground in front. The sash bars are straight strips, 2 by 3 inches, and running from the bottom to the top, being twice spliced. These bars have 4 inside cross bearings, being about 11 feet apart and supported by small standards. On the inside edge of the sash bars, a deep, narrow furrow is cut for the purpose of sliding in a second course of glass. This is done with great care, the panes being merely butted to each other. The bars being 3 inches deep, allowing half an inch for the outside and inside rabbets, there will be left a space of 2½ inches between the outside and inside glass. This column of dead air proves a wonderful protection; at the same time, the double glass is rather a benefit in softening the fierce sun's rays. The glass used being of large size, (15 inches between the bars,) it was an easy matter to insert sliding ventilators at suitable intervals. Free ventilation is also secured at the top back wall.

My objects in building so large a house were, First, economy of construction; Second, light and air; Third, Economy in heating and working. The wood work is the simplest possible, being all worked at the mill with scarcely any hand work. So large a space, with no side walls to shade, and so little wood-work over head gives the effect of a summer side-hill, even when the sun runs lowest.

And, thirdly, the side hill creeping up with the roof, the number of cubic feet to be heated is com-

paratively small; moreover, the proportion of outside wall exposed to the cold is much smaller in one large house than in a number of smaller houses. The advantage in working one large house, with but one fire, one system of watering, one force pump, and the saving of steps in passing from house to house, all this is too apparent to be dwelt upon. By actual experience, I find that the 10½ tons of coal laid in in November will last into March, and keep 6000 feet of glass in a state to grow peaches. By means of a hose and pressure of water from a tank at the top of the house, water can be conducted to any part, and the plants showered with great ease. The plants standing on the ground require less water and do better than when on stages.

In a portion of the house, a hundred peach trees are now in the different stages of fruiting, and their dark, rich foliage would indicate that they had the suns of August rather than January.

In closing, I would add that I should by no means recommend such a house for all places and all purposes. Away from the sea coast, such a house would be greatly endangered by heavy snows; even near Boston, it will require watching. But I have found the outside wood-work is so slight, and the surface of smooth glass so large, that not over five inches of snow can ever fall, in the coldest storm before it will slide. In all my experience with houses, I have never seen one that cleared itself of snow so speedily. The only all-important point is the giving a clear way for the snow at the foot.

Of course, such a structure is not designed for propagating purposes, nor for the growth of many kinds of plants, unless subdivided into different apartments and different atmospheres secured. But as an orchard house and for the cultivation of plants that require light and air; I think the plan has great advantages. Thus far the double glazing is perfectly successful. In case the glass becomes dusty or green inside, (of which I see no present indications,) it would not be a difficult task, in rainy weather, to slip out the inner glass and wash it. But I should think this necessity would be of rare occurrence.

MASSACHUSETTS WHITE GRAPE.

In the Annual Report of the Fruit Committee of the Massachusetts Horticultural Society, this grape is noticed as follows:

"It was introduced by Mr. Watson, of Plymouth, Mass., who described it as 'the greatest acquisition ever made to our hardy domestic grapes.' 'The flesh is tender, juicy and melting, and entirely free from pulp.' A vine received directly from Mr. Watson, has borne fruit the past season, which has been ex-

hibited before the Society. Other gentlemen have also fruited it, and state their fruit to be identical with that exhibited. There seems to be no good reason to doubt that the fruit is genuine. If so, it is rightly named.

The woods of Massachusetts abound with grapes of similar quality. 'Domestic' is an unfortunate adjective to apply to this variety, for, in the opinion of your committee, it is far from being domesticated. It has *all* the strongly marked characteristics of the Wild Fox, or Bullitt grape, and is utterly unfit for cultivation. The quality of the fruit seems to be wholly irreconcilable with the description of the introducer."

ACHIMENES--THEIR CULTURE.

BY W. PAYNE.

So many fine kinds have been introduced that the stove or warm conservatory may be made beautifully gay from June to September. My own practice has been very successful, though teaching probably little new.

When Achimenes have done blooming, their little "rhizomes" are collected together, and kept in separate parcels in some dry and warm place, (where the temperature is not below 50°, nor above 60°.) About the first week in January, we set out our roots, picking the finest, and preparing some pans (such as are used for making cuttings in, using sand, loam and leaf soil, in equal parts, filling to within one inch of the top. The bulbs are placed about half an inch apart, are covered with soil, and introduced to the most congenial climate we have at the time; a temperature of 60° to 70° will answer, provided the air is not what we gardeners call "dry." Here, in a few weeks, they make rapid progress. Where time can be afforded, and space is not of the greatest importance, and, where fine plants are required, the best way is to pot them from these dishes into small pots, putting one plant in each pot, until they become thoroughly filled with roots, which will be accomplished in the early part of March.

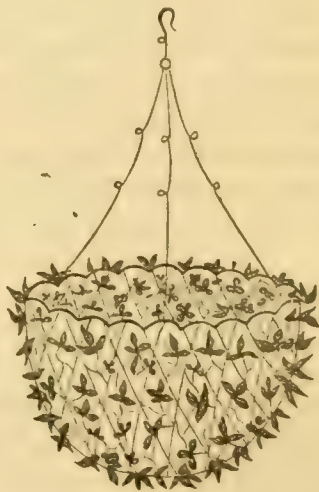
I have at times raised some very fine plants, which have bloomed well without the potting-off process, and have left them in the seed pans until transplanting time; we have found it good practice in this latter case, to stop or pinch out the leading bud in order to produce bushy plants; this plan we follow up until we obtain such plants as we need, and until we wish them to begin blooming.

I have seen fine strong plants grown without any stopping, where the atmosphere was just their element, but this seldom happens. We grow most of ours in wire baskets, partly because by suspending them from the roof of the stove we can economize our space and at the same time produce a charming dis-

play of combined coloring, ornamenting the house in the most beautiful and effective manner.

Achimenes seem to flower better in baskets than in pots. We prepare for them a mixture of leaf mould one part, old decomposed dung one part, fibery loam one part, and a little sand. In this mixture they grow and bloom well. The wire baskets we have of many different forms, shapes and sizes; ours are made of galvanized wire. In basketing, we cover the bottom of the basket with moss, putting on a sufficient thickness to prevent the soil passing through; next, we lay on this moss soil about an inch deep, and then turn out of the pots, or remove from the pans, very carefully, the plants, and place them on the layer of soil; four good plants should be sufficient, in an ordinary basket, to form the bottom row, and should be placed at equal distances from each other, the tops being carefully drawn through the wire openings, and allowed to hang over, and the stems must be noticed particularly that they do not rest upon the wire *at first*. Should they do so, and be permitted to remain there, the probability is that the pressure from above will break them off. It is a good plan to introduce some mosses below the stem of the plant, and the wire, to prevent this accident, for it is very important that *none* of the plants should be lost; if so, the uniformity of the flowering will be damaged.

When these are fixed, a layer of moss must next be placed round the sides of the basket, about three inches above the first row of plants, then soil nearly as high as the mosses, then another row of plants, which must not be placed directly over the first, but placed in the angle between each pair, as shown in figure.



so that when they bloom, the basket shall be completely hidden from sight and nothing seen but one

uniform mass of color; the same operation must be performed for the other rows. We frequently plant four plants at the top of the basket, which come in very useful as a finish. Over the soil, on the top of the basket, we string a few pieces of wire to keep the moss from being washed away. From fourteen to twenty-four plants are generally used for one basket, the moss which hangs through the opening should be carefully trimmed off with a pair of scissors, and the process is completed, when a suitable situation is selected for them, they are suspended in some moist, shady stove, giving water seldom at first, more frequently as growth advances, and using liquid manure occasionally throughout the blooming season, which is useful in prolonging their time; if they are weak, then they should be stopped, and (if compatible with other things,) more air given.

We have had baskets measuring fifteen feet in circumference and four feet deep, covered all round with blossoms.

For our large specimens we use the strongest growing sorts, such as Sir Trehern Thomas, and *picta gigantea*; for blues we use "longiflora" and "longiflora major;" for whites, "Margaretta;" for purples and rose colors, "*Baumanii hirsuta*," "*grandiflora*," "*rosea floribunda*;" for scarlets, "*meteora*," with a few baskets of the beautiful "*Verschaffeltii*." Some of the new ones we have on trial, but these we have enumerated have proved themselves desirable and permanent kinds, and when properly managed they produce the most gorgeous display which can be created in the stove at their season, and at a trifling cost.

BLACK KNOT ON PLUM TREES.—Mr. B. B. Warden, in an excellent article in the *Canadian Agriculturist*, does not believe the knotty excrescence is caused by the Curculio, because the trees are knotty, while the fruit is untouched, and he thinks, if they really exist there, which he seems to doubt, they would not attack the branches in preference to the fruit.

TO KEEP CIDER FROM FERMENTING.—Put a little sulphite of lime (not sulphate of lime, or gypsum), into the barrel with the cider. When the cider begins to ferment, the acetic acid formed, unites with the lime and liberates sulphurous acid gas, and this immediately checks fermentation. The sulphite is nearly insoluble in water, and lies inert and harmless at the bottom of the barrel till it is needed. This is a very simple and effectual method of arresting fermentation at any stage desired. Of course, in all cases, the cider should be kept as cool as possible, without allowing it to freeze, and the more effectually the air can be excluded, the better.

TRENCHING GROUND.

BY E. FRYER, DAYTON, O.

Having had some experience in the matter, I presume to express ideas. The "upside down" practice I condemn altogether, whether the subsoil be good or bad; but if the subsoil is good, or capable of improvement, it should be mixed—thoroughly mixed—in the process of trenching with the top soil. For this we have good authority. Leibig, in his late work, recommends a thorough admixture of the soil by the use of the spade, in preference to the plough. If the subsoil is bad, it should be left where nature placed it, but not as nature placed it. If there be only eight, ten or twelve inches of good soil on top of a very bad subsoil, the novice will ask, "How can I trench two feet deep under such circumstances, such depth being generally recommended?" To which I answer, turn clean over all the good top soil, and dig, loosen, pulverize the under-stratum to the same depth as that of the top, but leave in the bottom; do not bring it on the top, nor mix it. I reiterate a saying of the *Monthly*, in a former number, giving directions for making celery trenches—"Beware of bad subsoils." Prof. Way, in his "Absorbent Power of Soils," teaches that in proportion to the depth at which the soil is cultivated, so also is its power to absorb ammonia and other fertilizing agencies from the atmosphere; hence the benefits resulting from deepening the soil, whether good or bad. The architect will not build his house on a shallow foundation, unless the fabric reared above the earth is very light; no more can the cultivator of fruits, vegetables, &c., expect to raise heavy crops from a shallow soil, or one deficient in the materials necessary to support the burden he expects it to bear.

SHALLOW PLANTING OF TREES.

REPLY TO THE CRITICISMS.

BY WILLIAM BRIGHT, LOGAN NURSERY, PHILA.

My reply to the criticisms upon my article on "Shallow Planting" shall be very brief. In my first article on this subject, I intended to present what I consider good practice in the planting of trees, in contrast with the common method of planting in holes wholly or partly filled with manure, or composts composed in good part of manure, as is too generally the custom. If any one should happen to be convinced of the merit of the plan advanced, and should be as much benefited by it as I have been, it will be a source of much gratification to me. If any one's prejudices in favor of deep holes and deep planting are as deeply rooted as the trees they plant, and they obstinately refuse to be brought up to the light, I can only regret their unfortunate condition, and hope that they may not, like many of the trees alluded to, become affected with premature sap-blight, but may

live to discover their error, and ere many years may be dug out of the fossil strata in which they lie, and walk the earth in an improved horticultural state of existence.

But badinage apart, I do not feel that I can go into an extended discussion of this subject, without giving my friend, the editor of the *Gardener's Monthly*, an over-dose of the matter. Therefore, like the ghost in Hamlet, "brief let me be."

By "shallow planting," I mean the planting of trees entirely in the top or surface soil, digging no holes into the subsoil, except for the purpose of loosening it when it has not been trenched or subsoiled, placing no manure or composts under the trees, and doing nothing to invite the roots downward, but doing every thing to induce them to spread themselves chiefly in the six or eight inches of surface soil. I have never said, as my critics seem to infer, that under my method of planting, the roots would not go down, even into a poor subsoil. On the contrary, in an article on the Shallow Planting of the Pear, in this journal for March, 1859, I said, "the roots will go down speedily enough, and far enough, be sure of that," even if planted shallow. But what I want is, to prevent them from going down if possible; at least I urge planters not to put the roots down into the cold, poor, inactive subsoil to begin with, nor to invite them down by rich composts placed under them.

My excuse for so radical an article on planting is this. Thousands of trees of all kinds have been ruined by following the advice of the most eminent horticultural writer this country has ever produced,—the lamented DOWNING,—and it is time that a check should be given to the practice which he introduced, and which has been copied by numerous writers and followed by amateurs for many years, but is *not* practised (mark, you, my critics,) by the *best nurserymen* or the *most successful fruit-growers*. Downing had the soul of an artist, united to the hand of a practical gardener; but the trade of gardening was in its infancy in this country when he commenced to write, and he was not infallible. His merits were pre-eminent; his errors were few, but here is one of the gravest of them.

In Charles Downing's Revised Edition of A. J. Downing's "Fruits and Fruit Trees of America," published by J. Wiley, New York, 1860, page 44, we have this passage:

"No fruit tree should be planted in a hole of less size than three feet square, and eighteen inches to two feet deep. To this size and depth the soil should be removed and well pulverized, and it should, if necessary, be properly enriched by the application of manure, which must be thoroughly mixed with the whole mass of prepared soil by repeated turnings with the spade."

In setting the tree, he says:

"Begin by filling the hole with this prepared soil," etc.

Now, just fancy a man undertaking to set out a thousand or two of fruit trees after this plan, making a compost with manure and the subsoil of every hole! The truth is, amateurs and orchardists have not done this. They have gone a shorter way to work. They have just dug the holes, thrown in a mass of manure or compost, stirred it round with the spade, thrown in more soil and compost, set the tree, and placed compost or manure around and over its roots. They have done every thing they could to induce the roots to go down, and very little to induce them to remain and spread upon or near the surface. What we desire to do is just the reverse,—to set the tree with none of its roots below the good surface soil, and to put no manure or composts under it,—in fact, to dig no holes at all, but to make the soil loose to the depth of eighteen inches, still keeping the subsoil in its place, and, if possible, to prevent the roots from going down, by mulching and surface-manuring, which constantly invites them upwards.

With these words on the main question I have done with it for the present. Mr. Jones, who seems to be quite a clever philosopher, catches me on an error in the construction of one of my sentences, which I admit amounts to a sort of "bull." He winks knowingly at me because I said, "It is *nature's* own method of planting, and the best ever devised by *man*." If I had taken as much thought of my language as some people do of their dress, I should possibly have said, "It is nature's own method of planting, and man has never devised a better." But I do not pretend to know much about the mysteries of language or the refinements of rhetoric. If my critics will only take me on the practical part of the business, planting, etc., I shall come forth to meet the very Goliaths of the trade with all the simple courage which animated the heart of David of old, in his memorable contest with the giant; but if you assail me with mystic philosophy and the arts of the logicians, I shall be as powerless as Lemuel Gulliver when each particular hair of his unconscious head was pinned to the earth by the industrious Lilliputs.

"YE LAZIE FEVRE."

BY MISS E.

Mr. Meehan:—As the season is approaching when the disease for which the enclosed recipe is given as a remedy is apt to prevail, it has occurred to me that you might like to make the experiment among your own people, and also publish it for the benefit of the numerous readers of your very useful *Monthly*.

I found it some time ago in an old common-place book, but have forgotten from whence I first obtained it. But if receipts improve with age like good wine, this must be very valuable.

It is taken from an old book, entitled—"The Breviary of Healthe, by Andrew Boorde, Phisyche Doctoure," an Englishman, anno, 1557.

"A CURE FOR YE LAZIE FEVRE."

"The 151st chapitre dothe shewe of an evyll Fevre, ye wich dothe much cumbre yonge persons, named, Ye Fevre Burden, or Lazie Fevre.

Among al ye fevres I had almost forgot ye Fevre Burden, wyth wich many yonge men, yonge wemen, maydys and other yonge persons be sore infected now-a-days.

The cause of the infirmilie :

This fevre dothe cum naturally, or els by evyll and slothful bryngynge upp. If it doe cum by nature, then is this fevre not to be cured—for itt can never out of ye fleshe that is bred in ye bone. If itt bee by evyll bryngynge upp, itt may bee holpen by diligent labor.

Ye Remedie :

There is nothing for the Fevre Burden, as is *Unguentum Baculinum* ; that is to sai—take a sticke or wand, of a yard of length and more, and lett itt bee so grate as a man's fynger ; and with itt annoynt ye back and shoulders well, mornings and evenings, and thys doe twenty-one days. If thys evyll fevre wyll not bee holpen in that tyme, let them beware of waggyng on the gallows.

Nota Bene.—And whyles they doe take thys medicine, see you putt no lubberwort in thyr pottage."

CURCULIO REMEDIES.

BY O. T. HOBBS.

Your correspondent "D. W. B.," (why not give name and address in full,) wishes to know the result of Dr. Uhler's experiment with aloes as a remedy against the depredations of the Curculio.

REPLY :—Several years ago, Hon. James Mathews, of Coshocton, Ohio, now of Knoxville, Marion Co., Iowa, discovered the nature and habits of the Curculio, which discovery he placed in the hands of a committee, who were to report in due time the result of their observations regarding its efficacy. Meantime, having been made acquainted with Mr. Mathew's discovery, I beg leave, (in absence of any report by the proper committee,) to say to the public that the "remedies," "antidotes" and "applications" usually recommended, are not, neither can be of any value as an antidote against the depredations of the little "Turk," simply because they do not, in anywise, conflict with the nature of the insect, nor his "domestic institutions ;" and that aside from this knowledge, it is next to vanity to attempt an interference.

The "applications" of nauseous substances—smoke, perfumes, and coatings of lime, sulphur, etc., he utterly disregards, and as he sits, rather privately, making his punctures, he bids defiance to skill, in

this direction, and feels perfectly secure in the honorable discharge of natural functions ; and unless by mere accident, (which is doubtful,) will ever maintain his grounds until his *peculiar* methods of "transacting his own business" are understood, and counter appliances instituted against him.

I am not at liberty to make public Mr. Mathew's discoveries, neither my own without his consent, inasmuch as they are but a result which I esteem due to Mr. Mathew's consideration at present.

More anon.

[We must say that we have no faith in Mr. Mathews' discovery so far as it may be considered a remedy against the Curculio. The "secret" seems to have been pretty well extended confidentially, and yet, while if successful, a fortune might easily be raised by Plum raising, those "let into the secret" have no more plums than their neighbors. It may be part of the condition of the possession of the "secret" that "nothing shall be made of it ;" but surely some arrangement could be made to let Mr. Mathews have a fair share of the profits. Really, gentlemen, it is hardly worth while discussing a secret that has been so long before the country without doing the country any good.

Mr. H. makes a suggestion about Correspondent's names being put in full to their communications. Were the public composed of individuals who were all conversant with the rules of good breeding, there could be no possible objection ; but unfortunately it is not. As an instance—Some time since we noticed a novelty as being successfully raised by an amateur friend, referring to him by name ; nearly *two hundred* persons took the liberty of begging for it, a great portion of whom did not even think it worth while to enclose a solitary stamp for the postage. So great an annoyance has this practice become, as we know, that we are entirely satisfied to withhold the writer's names at their request. Any other course would deprive us of some of our most valued contributions.—ED.]

GRAFTING WAX.

BY A. W. COMSTOCK.

BURLINGTON, IOWA, February 9th, 1860.

Mr. Editor :—In the February number of the *Monthly*, I notice an article by A. Mattison, on "Waxing Grafts," in which he calls "bandages" an "old fogy affair." Now we out West here call his method the same thing. If he will take six pounds of rosin, one pound of beeswax, and one pint of Linseed oil, and mix, he will have a first-rate wax for either in or out door work. Then, to put it on, have a furnace made to receive a cup similar to a glue pot, to hold, say two quarts, with sufficient depth below for fire, eight or ten inches will do, then bring the wax to a

liquid state, and with a brush the size of a sash brush apply it to the graft, and he will find that the wax will go two or three times as far, and the work will be done in one third of the time, also with as much certainty, as every part is covered.

I have used the wax in this way for six or seven years, with the most perfect success. There are various methods of grafting; the one principally in use here I think the best for two or three reasons. First, if the work is done thoroughly, there will not be a failure of one per-cent. Second, it is expeditious—I am at work now averaging one thousand in ten hours to the hand; a real smart man will do one hundred and fifty per hour, and in such a manner that ninety-nine out of every hundred will grow.

[Bandages often injure the tree. Mr. Mattison's wax was to do away with the necessity for them. We do not understand that the composition Mr. Comstock uses, can be successfully used without tying.—Ed.]

VINE BORDERS.

BY MR. T. HARRIS, WELLESLEY, MASS.

I have been much pleased in perusing Mr. Bright's New Method of Constructing Vineries, in your February number, because I am conscious with him that in all artificial culture we require full command over the roots, as well as the foliage.

Had Mr. Bright erected Dr. Houghton's vinery with the ultimate design of forcing grapes, (and probably he has done so,) it certainly would have been an advance in the right direction. These detached borders suspended in the air, are all important to ripen grapes in perfection in the months of March, April and May.

It is true, Mr. Bright's system for a cold vinery offers some advantages, and yet probably the ordinary borders made would be amply sufficient to mature a good annual crop, if proper means were at command to keep excessive wet off the borders during the autumnal months, so that the wood may become thoroughly ripened, for I am fully convinced no frost under glass in this climate will injure vines when such is the case, especially when protected in the ordinary way. A cold vinery I look upon as a permanent affair; and if the border is properly made and protected as above described, it is seldom any necessity ever arises to remove any of the vines, for such sorts only are planted as are known to be of a hardy constitution, and that will ripen without artificial heat. Not so with a vinery excessively forced. Often circumstances occur (now that so many excellent sorts are being introduced) to remove the most worthless and replace others. A vine may have been over-cropped, and its constitution become weakened. Another may be attacked by disease, baffling the skill

of all of us. And to remove such, when planted in the ordinary way, would be an impossibility; but when planted as Mr. Bright suggests, becomes an easy matter.

But, Mr. Editor, I fear I am intruding on your valuable space. I should not have made the above remarks had not my attention been recently called to examine Mr. H. Simpson's grapery, Saxonville, Mass. You are, of course, fully aware of Mr. Simpson's method of growing three crops off the same vines every two years. Although I am no convert to his system, yet I must here acknowledge that the highest credit is due to Mr. Burns, who has made such an achievement in the art of grape-growing.

The vinery at the present moment is all that the most sanguine grape-grower could desire. Imagine some thirty or forty vines covered with strong, vigorous foliage, and each with twenty and twenty-five pounds of grapes, some of the bunches weighing full two pounds, and these all arranged so methodically, that the beholder cannot but be enchanted with the sight. The fruit is now changing color, and will be ripe in April.

The secret of this success is in having the roots under proper control. You naturally inquire, how in a climate so rigorous, an outside border can be controlled? It is done in this way: two feet in depth of meadow hay is placed over the entire border; then shutters are placed on top, to prevent rain penetrating; and over all two feet in depth of wool waste is spread. This powerful heating material affords warmth to the border below, penetrating through boards and hay, so that at one foot beneath the border indicates 80°.—This heating the border and drying it off as soon as the crop is ripe, is the secret of Mr. Simpson's success.

The expense attending this system is of no small moment, and I earnestly hope all vineries hereafter erected for forcing will be so made that the roots shall be all inside the house, so that this unnecessary expense may be obviated.

[Mr. Harris does not "intrude on our valuable space," for it is precisely such practical pens as his that have made our space valuable, and enabled our magazine to achieve the proud position it occupies.—Ed.]

REMARKS ON THE IRIS XIPHIODES.

(Continued.)

BY DANIEL BARKER, WEST MERIDEN, CONN.

Of all the pleasures presented to the votaries of floriculture, the ability to produce new varieties by the beautiful process of hybridizing is certainly one of the greatest. The florist takes some humble plant from its native wilds, and transfers it to his garden,

where, in process of time, its progeny is transformed into new and beautiful varieties. So much have many of our choicest plants been improved, that any person unacquainted with botany would scarcely recognize them as varieties of the same flower.

We may instance the rose, azalea and rhododendron, amongst shrubs; the pansy, dahlia, hollyhock, gladiolus and chrysanthemum, amongst half-hardy plants; the pelargonium, calceolaria, cineraria, &c., amongst greenhouse plants.

For upwards of a quarter of a century we have cultivated all of these, and are surprised at the rapid and wonderful transformations which have taken place in our own time. Improvements can be equally successful here, but only by directing our attention to any favorite plant. The "*Iris Xiphioides*" would be an excellent subject; and whoever may direct their attention to its improvement, after a few years of pleasant labor, may give an almost imperishable name to it.

As Isaac Anderson observes, to go fully into the theory and practice of hybridizing, a volume might be devoted to the subject, and still leave it unexhausted.

To start with the beginning would be to start with Creation itself. It was conjectured by the immortal Linnæus, that nature was occupied by but few original types of the innumerable vegetable forms which have been transmitted to us. How these few first types (if that great authority was right in the belief,) have become varied and multiplied—from classes to tribes, from tribes to genera, and from genera to species and endless varieties; belongs to those mysteries of Divine agency which have hitherto set all inquiry at naught. But, be that as it may, having determined on the kinds we desire to operate upon, we place them in pots in a cold frame, where they remain until within a few days of the opening of the first blooms, when they are placed under glass, so as to prevent any accidents from a change of temperature, wind or rain, but more particularly from insects. A greenhouse covered with muslin curtains is best adapted for this purpose. The plants from which the pollen is to be taken, and the plants which are intended to bear the seed, should, if possible, be grown in the same house. Where this cannot be done, a flower just commencing to unfold its petals may be gathered and placed in a glass of water, where it will have sufficient sun to mature the pollen. In order to prevent self-fertilization, divest the blooms of all their anthers previous to the ripening of the pollen, as the slightest application of native pollen upon the stigma of the parent plant is sure to supersede all foreign agency.

From the opening of the flower until the stigma is

in a fit condition to receive the pollen, should the weather be fair and bright, will be from four to six days more or less, according to the state of the atmosphere. This may be known by a viscous exudation covering the entire summit of the stigma; at which time the pollen should be applied. In conveying the pollen to the stigma, we invariably use a small camel-hair pencil.

As to the most proper season for hybridizing, the time of day, etc., a treatise might be written, to which another might be added; but the above will suffice for the beginner. There is, as we have repeatedly said, a wide and vast field open for the hybridist; and his pleasant labor, if directed with that care necessary in the art, will most assuredly be crowned with success.

The preserving and sowing the seed must form the subject of another communication, if such is desirable.

[It certainly will be.—Ed.]

By way of encouragement to the *American hybridist*, would it not be well if the committees of our various Horticultural Societies were to offer some inducements for the raising of improved and well-marked native hybrids of popular hardy and greenhouse plants, &c.?

[They could not do a wiser thing.—Ed.]

ALOE'S AGAINST INSECTS.

BY DR. W. M. UHLER, FALLS OF SCHUYLKILL, PA.

Thomas Meehan. Dear Sir: In reply to a correspondent in the February number of the *Gardener's Monthly*, permit me to say that I made trial of Aloes on my Plum trees as a preventive of the Curculio. I now give you in few words the result. Whether a success or failure, you and your readers must determine. For myself I am sufficiently encouraged to try it again, and if necessary, perhaps a third or fourth time. Considerable experience as a practical working chemist having proved to me that no idea should be rejected because it failed in a first trial. A thousand little side matters, perhaps unnoticed at the time, may have prevented a success and caused a disappointment, when, had we been able to foresee and avoid them, a very different result might have been obtained.

At the time when my plum trees were in full bloom, I applied to each tree, immediately at the base, say one pint of a strong solution made by adding one pound of Aloes to two gallons of warm water. The trees perfected their blossoms, but when the fruit became apparent, say of the size of a small pea, I found every one bitten by the Curculio, except the fruit of one tree, of which I shall speak. As a consequence, from all of my trees, except the one alluded to, I did not get a perfect plum, while the excepted individual

yielded me a full crop of splendid fruit, without a single defective one. In order to test the experiment, I permitted three times as many to remain upon the tree as I would have done under ordinary circumstances. This tree was planted in the same plot with five others of a similar variety ("Washington,") say at the distance of 18 feet; it was exceedingly delicate and only permitted to remain as a fair subject of experiment; it bloomed considerably later than the others. Now my theory is, I left the application of the aloes until it was too late for all the healthy trees, but just in time for the sick one. Absorption in the healthy ones took place too late to prevent the attack of the Curculio, and hence the failure. The practical lesson I draw from the experiment is to apply the solution of Aloes as soon as the fruit buds begin to swell—this I will do the present season, and will give you the result. I may add that if no good resulted from the application, no harm has followed. My trees are remarkably sound and thrifty in appearance, without the sign of a knot or blemish.—A neighbor at the Falls, discouraged by the continued failure of his plums, is now trying some radical experiments upon his trees on the "kill or cure" system, which I shall closely watch through the season, and report upon if desirable.

[We shall be much obliged by the report, even of failure. To know that a probable remedy is a failure in fact, is so much gained.—Ed.]

CLIMATE OF OHIO.

BY L. S. MOTE,

(Near) WEST MILTON, O., 2d mo., 25, '60.

Respected Friend. Thomas Mechan.—We have had a long and rather severe winter, making (with short intermissions,) about three months of continued cold. As far as I can learn, our peaches are all killed in this part of Ohio, and maybe none are left in this State or Indiana.

Our cherries have fared the same way. Black Tartarian, Knight's Early Black, Yellow Spanish, Gov. Wood, Bleeding Heart, American Amber, May Duke, and all the heart cherries and part of our Mays (Early Richmond,) that I have examined, are among the things that were. But we have escaped with much less damage here than some other sections in the West and Southwest of us.

The sudden change from warm and very wet, to very cold in the fore part of 12th mo., (December, '59,) was what did the work, or the greatest damage, and subsequent "cold snaps" completed it. 2d mo. was ushered in with thunder showers like Spring, the earth was thoroughly soaked; it then chopped round to Northwest, snowed several inches deep, and by the morning of the 8th the mercury was down to 10° below zero; on the 30th and 31st it stood at 6°

below 0. On this New Year's day it was the same, and next morning, the 2d of last month it stood at the old mark—10° below 0.

Now, what is to be done when we are liable to be caught in such "snaps?" Shall we ejaculate, "Oh for a more congenial clime," and hie us away to the Pacific Coast? or try to accommodate ourselves and fruit trees, etc., to "surrounding circumstances" by "getting up" hardier kinds from seed? thereby producing such that will be "acclimated" to our changing seasons. The reproduction of new varieties of fruits has occupied my attention for several years, and some of the little leisure I have is spent in this way, more especially with the minor fruits. These make "quick returns," and show what they will be in a few years; but the majors are not so fast; they will have their time; but if we chance to get one "lion," it is worth many "foxes."

[We are surprised at so much injury from so moderate a temperature. Our own glass ruled as low, but even such trees as the Deodar, Yews, Morindas, and other rather tender evergreens, are very little browned, and fruit trees not at all injured.

Raising seedlings adapted to the peculiarities of climate, is the one thing needful after all.—ED.]

RUSTIC ADORNMENTS FOR GARDENS AND WAYSIDES.

BY SAMUEL L. BOARDMAN.

I can use the pen better than the pencil, and so give the readers of the *Monthly* a few simple directions for constructing two or three inexpensive decorative objects for gardens, highways, &c.

One of the prettiest objects for the garden is a "moveable trellis." There is nothing new in it, for it has been mentioned in our horticultural periodicals before. The main part is a strong box about three feet long, placed upon substantial wooden trucks or rollers; and the trellis upon it may be eight feet high, or less, according to the kind of flowers grown in it,—which are usually the finer sorts of exotic climbers, such as Passion Flowers, Everblooming Roses, Maurandias, &c. The advantages of this structure are, that it may be moved in any direction and placed in any part of the grounds wherever fancy dictates. If you choose, a new situation can be selected each morning, and the effect is certainly charming.

Rustic seats for arbors and summer-houses have been previously described and illustrated. These can be made of any desirable form, the materials of which will cost but little. They can be selected from the wood-pile when the crooked limbs are being cut for fuel, or a day or two spent in the forest will furnish an abundance. The aim should be to obtain durable kinds of wood, such as the red cedar, white

oak, &c. A plank is used for a bottom to an arbor seat, and this is covered with the small and straight shoots, split into two parts so as to fit closely to the plank. In constructing this part of the seat, there is an opportunity for the display of much taste and ingenuity, and, if possible, there should be *no two pieces of wood alike*. Considerable study should be given to placing these pieces into as many different forms as may be, and a plan of the intended appearance should first be marked out upon the plank before the work is commenced. I give here my recipe for making a varnish for garden seats of this description. First wash the wood-work with soap and water, and when perfectly dry, go over it on a hot sunny day with common boiled linseed oil; leave this to dry a day or two, and then varnish it once or twice with what is commonly called "hard varnish." If well done, it will last for years, and prevent any annoyance from insects. June is the best month for making this application.

Very often, when travelling, we come to a bright, sparkling spring, the water of which gushes out with wild delight. Sometimes these springs are near a hill by the roadside, and not far from the houses of country residents. For the convenience of travellers, and for the sake of embellishing our public highways, these beautiful places should be improved in general appearance; and, if possible, be made more lovely and attractive. A half day's work will accomplish this. Let four upright posts be placed at the corners of the box, forming the spring, running up about six feet, upon the top of which should be placed an ornamental and picturesque roof, made either of boards, bark or thatch. If furnished with a dipper for the use of the passer-by in summer, and perhaps an inscription placed upon the side of this frame where all could see it, how much it would add to the beauty of the scenery of the road and the comfort of travellers!

BROOKDALE FARM, MAINE.

NEW METHOD OF TRAINING LIMA BEANS.

BY B., BALTIMORE, MD.

Dear Sir:—The following is but a small hint; but by it Lima beans may be gathered full two weeks before the usual time, and so, perhaps, may be useful. Instead of having long and stout poles only as is usual, I tie on lateral slender rods with a willow band, horizontally, and so train the vines,—much, in fact, as you would do a grape vine. It takes but a few minutes to give my small plot of plants a tendency to run on the lateral poles, and I am well rewarded by their extra earliness. I cannot explain why they should be earlier than when they run on upright poles; but such is the fact, and you may have it for what it is worth.

[There is much reason in our correspondent's excellent hint, by analogy with other things. For instance, the Evergreen Ivy will never flower till it reaches the top of the tree or building on which it climbs. As soon as it reaches the top,—whether that be ten feet or one hundred,—it flowers immediately. As our correspondent remarks, "such is the fact;" but the reason is not very clear to any one.—ED.]

PREVENTIVE OF THE PEACH BORER.

BY J. B. J., LAUREL, IND.

Last year I mulched a quantity of Peach trees with weeds cut from other parts of the ground, and around many of them the rag weed was mostly employed. In the Fall, none of these with the rag weed mulch had the borer. I do not know what peculiar virtue there may be in the pollen of the rag weed, that should give it this protective power.

APPLES IDENTICAL.

BY T. CARTER, RALEIGH, N. C.

The Equinately, Buckingham, and Fall Queen.
The Berry, Wall, Sumerour, and Nickajack are the same.

Haywood's June and Pear.

Golden Pearmain and Clark's Winter Pearmain.
Mississippi and Gloria Mundi.

Such is the opinion of the North Carolina nurserymen who have grown the trees side by side in their nurseries, and who have fruited them.

PLANTING VERBENAS.

BY W. S. WARD, PORTLAND, MAINE.

In reading of the cultivation of the verberna, it has often struck me that more might be said of the way to plant out in the Spring. In my practice I have found that it will add greatly to their beauty, and they will cover the ground quicker, by breaking their ball in turning them out of their pots, and by keeping the flowers pinched off till they get well established in the ground. The nurseryman grows his bedding plants in very small pots, and very often when they sell them they are pot-bound and stunted. The check they get in planting throws them into bloom prematurely; and the hot weather sets in before they have a chance to get hold of the ground. The consequence is, the nurseryman is blamed for the plants doing badly, when a little care in the planting would have shown different results. The above hint may not be new to gardeners, but amateurs are not supposed to know the little things that help to make a gardener.

[If the ball is dry, it should also be soaked in water before setting out,—and if the plant has been packed for a short time, it may be shaded for a few days by an inverted pot being placed over it.—ED.]

The Gardener's Monthly.

PHILADELPHIA, APRIL 1, 1860.

☛ All Communications for the Editor should be addressed, "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

NOTICE TO CORRESPONDENTS.

In consequence of the heavy increase in the circulation of the *Monthly*, and the consequent necessity of going to press earlier in order to issue the Magazine punctually to all our subscribers by the 1st of each month, it is desirable that communications requiring immediate attention, should reach the Editor before the 10th of each month.

SUMMER PRUNING.

A lady friend writes to us, to inquire how gardeners manage to get bushy plants,—what they call "specimens." With all her care and attention, the plants are "spindly," or as a gardener would term it, long-legged.

At first we thought to reply through our usual column of Inquiries; but when we considered how little is actually known of the principle,—not merely in its relation to the growth of specimen plants, but further, in its connection with the successful management of fruits and trees of every description,—we concluded to devote a chapter to its elucidation.

Every one knows that if a grape vine be left to itself,—free to climb over a tree or any other object,—it soon learns to despise its terrestrial associations. It adopts for its motto, "onwards and upwards," and in a few years you find it claims no attachment with the earth that bore it, beyond a long and bare stem. Every vestige of vegetation is at the topmost degree of altitude,—not a twig or leaf remains below to tell you even that it is a grape vine.

And so it is with a geranium, fuchsia, or any other pot plant. Suffered to go "straight ahead," its stem soon becomes bereft of foliage; and it stands amongst its plump and happy looking congeners that have enjoyed the blessings of good gardening, a picture of misery and wretchedness.

Now, the usual plan is to cut down such specimens, and let them grow up again; but every one knows that to cut in or prune a tree, only makes it strive with renewed vigor to regain what it has lost. For instance, if we cut down a leggy geranium to within two inches of the ground, it will push forth several shoots, that will all become as vigorous as the one cut away, and matters are not much mended. The plant will not be bushy, but will only get several straight stems instead of one. In fact, the more you cut a tree or plant, after the wood has once become ripened,—that is, after the leaves at the place of cut-

ting off have fallen,—the stronger will it grow; and hence the maxim, that winter pruning increases the vigorous upward tendency of vegetation, and considerably strengthens it.

To make a bushy specimen, then, we must weaken this upward tendency; and this is accomplished by pinching off the points of the growing shoots. And it must be further remembered, that only that shoot is weakened which is so pinched off; so that to make a plant bushy,—so uniformly regular that the side shoots are fully as vigorous as those at the top of the plant,—the top and strong shoots only must be pinched back. The side shoots must be suffered to grow unchecked until they get ripe, when they, in turn, may be cut back a little to make them branch.

The great beauty of this theory is, that it is so easy of application by the lady with her few window flowers,—or the monarch of the gardening tribe who may carry off from the exhibition battle-field the gold medals of victory for his specimen plants; and the man who has but a few strawberries to grow, finds it as much to his interest to understand its bearings, as he who forces the most successful grapes. And we may say here, that it is, in fact, one of our friend Bright's great secrets in his successful management of the pot vine. By its application he gets his canes thickest near the base of the vine, where it is usually the slenderest,—and the bunches as large and as heavy when hanging but just above the soil, as those which are borne on the top of the cane five feet from the surface of the pot.

By this theory, also, it is rendered unnecessary to have a dozen vines in one spot, so that some may be retained to fill the lower part of a trellis, and some the upper, as the branches can be so equalized as to be of equal strength at the ground and twenty feet above; and so, also, by it the dwarf pear can be made the beautiful objects Barry is so famed for producing.

But there is yet another point wherein the theory becomes of great service to the practical gardener, which is, the influence that pinching off the young growth has on inducing a flowering or fruiting condition.

Plants have two objects of growth: the nourishment of the individual plant, and the reproduction of its species; and in this respect they are identical with the animal creation. Flowering and fruiting is, of course, the beginning of the process of reproducing the kind in the seed; and this never commences until rapid growth has ceased. Weakening this rapid growth, then, hastens the fruit-bearing season; and as pinching the growing shoots has this effect, shy-blooming plants are made to flower; and fruit trees that would grow too freely for years to bear well, soon come into a fruitful condition. Of course, the

fruit or flowers are not so fine as they would be if no check to growth had been offered, but when it becomes a question of fruit or no fruit, we have no choice.

It is singular that though this principle has been long known, it is so ill understood in practice. There are yet to be found very many excellent gardeners who will argue that it is injurious, under any circumstances, to mow off the leaves of strawberries, and look down on those who advocate the practice as a set of old fogies, with whom they would hardly like to associate in a horticultural assemblage of the most latitudinarian character. Yet when we find men who have carefully experimented, assert that they have found the process tend to a greater productiveness in their strawberry crop, we are bound to examine their statements in all fairness; and when we know that some strawberries are so foliaceous as to seriously interfere with their fruiting character, and we also know that by cutting off foliage while the plant is growing, we tend to increase its fruitfulness, we are necessitated to admit, that under some circumstances, and in some situations, the practice has its advantages.

Altogether, it is a subject well worthy of increased attention. It is one of the main springs of the great eminence modern gardening possesses over the past, —and half has not yet been made from it that it is capable of affording.

THE NEW HOLLAND PITCHER PLANT

(*Cephalotus follicularis*.)

Most of the Pitcher Plants are natives of the tropical latitudes in the Eastern Archipelago, and are beyond the reach of those cultivators who have not the conveniences of a very warm hothouse. The present plant is a native of a more temperate climate,

Fig. 1.

Fig. 2.



and well adapted to greenhouse culture, provided a glass case is kept over it so as to maintain a regular degree of humidity about it, which, coming as it does from marshes and bogs in King George's Sound, in New Holland, it requires in order to be successfully grown.

It is not far removed botanically from our own Sarracenias, but is more pretty and delicate, and is

yet scarce in cultivation. We are indebted to Mr. Dundas' unique collection for the subject of our illustration. Fig. 1 gives the general appearance of the plant, and Fig. 2 that of one of the pitchers of the natural size.

HORTICULTURE IN BOSTON.

EXTRACT FROM A PRIVATE LETTER.

Our Society has recently sold its hall in Boston, and we have again located on Washington Street, having obtained a fine large hall and an excellent library room adjoining, at a low rent. It is now proposed, that in addition to a considerable increase of the library, all the agricultural and horticultural periodicals of any merit in this and foreign countries shall be kept on file and accessible to members. With our snug little sum of \$60,000 from our building, and a regular yearly income of from \$6000 to \$8000 in addition, there is no excuse if we do not soon have a most valuable library and reading-room. We are also pressing our petition before our Legislature for a grant of an entire square of the new "West End" of our city. In the future we may not be able to boast of a Central Park, but provided a range of squares stretching from near the foot of our noble old-fashioned common, out towards the open country, is wisely reserved for collocated Museums of Natural History, Botany, Horticulture, and kindred sciences, certainly an important step will have been taken in perpetuating the reputation of our Athens.

THE PENNSYLVANIA BOTANIC GARDEN.

Numerous difficulties seem to beset the realization of this idea by the Pennsylvania Horticultural Society; but its friends are determined to see it accomplished. The latest plan is to incorporate it with the "Model Farm Association," the application for the charter of which is now before the Legislature. We hope and trust the application will be successful.

Since writing the above, we learn that the Act of Incorporation has passed both branches of the Legislature.

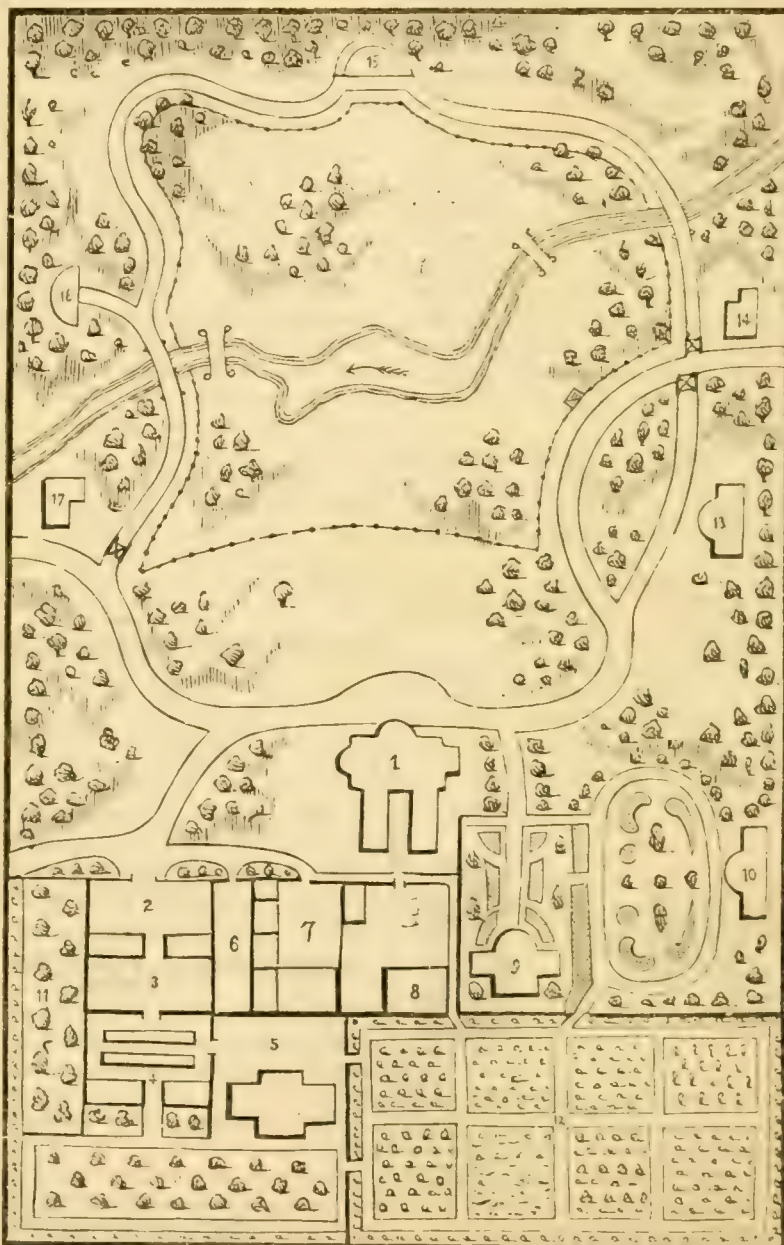
DESIGN FOR A PLACE OF TWENTY ACRES.

The following design is intended for a rolling piece of ground, with water flowing through it. It is laid out with good taste, and, unlike many English plans, is so adapted in its main features to our climate, that we have transferred it to our pages from the English *Floral Cabinet*.

Though it is, in a great measure, true that the principles of landscape gardening are the same all the world over, they require modification to suit the wants of different countries, or the circumstances of peculiar localities.

The great feature of our Summer climate is its oppressive sun; and to make an American garden a luxury, such as a really fine garden should be, the foundation of all that is attempted should be *shade*. The cleverest applications of the principles of landscape gardening will be defective, unless this be kept in view. In almost all English plans this is but a very secondary object, and fine views and beautiful groups, flowing lines, and all that constitutes beauty in a landscape, may be enjoyed without one's being continually recalled to the fact that "it is an extremely hot day."

With the exception of this deficiency, the plan will be very useful to many of our readers, and afford useful hints to all of them.



No. 1, house. 2, stable-yard, stables, and coach-house. 3, dung-yard. 4, frame-ground and sheds. 5, forcing-house and shed. 6, piggery. 7, poultry-court and shed. 8, laundry-yard, laundry, and brew-

house. 9, conservatory, and shed, and flower-garden. 10, summer-house, or tea-room, and flower-garden. 11, fruit-garden. 12, kitchen-garden. 13, summer-house. 14, lodge. 15, alcove. 16, reading-room. 17, lodge where the gardener may reside.

The object of the plan is to show how an approach to the house may be made in hilly ground, without deep cuttings, and to afford some hints as to planting the eminences. Not to have too much to keep in good order, a part is enclosed by an iron fence, for the purpose of grazing cattle therein.

Questions and Answers.

DWARF PEARS IN GRASS.—We notice that we have been supposed to recommend seeding-down about *Dwarf Pears*. When we recommended seeding-down young orchards, we especially excepted the *Dwarf Pear*, because "they required rather higher cultivation than orchard trees." (See page 162, vol. I.) The Dwarf Pear cannot extend its roots to a great distance, and has an immense number, in a small space, to be fed, while it has a large top to support; and thus there is little danger from over-growing it. On the contrary, the great danger is that it will overbear, and stunt the tree's growth.

We should think ourselves crazy to recommend seeding down about Dwarf Pears. While we say this, however, we would insist on the importance of seeding-down orchards of *standard trees*—not leaving them afterwards to carelessness and neglect, but giving them annually a surface dressing of carbonaceous and mineral manures.

Satisfied that time will make a great change in the common opinion respecting the advantages of broadcast cultivation, we do not wish just now to say anything that may appear controversial, and only allude to it again here to correct the misapprehension of our views as to the Dwarf Pear.

VEGETABLE PARASITE—*C. B. Swazey, Yayoo, Miss.*, writes of a parasite that attacks his Apples, Pears and Roses. By the description, we take it to be the love vine (*Cuscuta Americana*). A plant allied to it is the "Dodder," of Europe, that is spoken of as being so destructive to the clover fields there. A small specimen would enable us to speak of it more positively. Cutting off and burning as it grows is a certain remedy, as it can only propagate itself from seeds.

MAY PINK—*Figo, Quincy, Illinois*, in latitude 40°, says the box edging suffers very much in winter. He has tried the May Pink, and find it a good substitute, growing easily, and besides, blooming handsomely.

By throwing a little straw over it keeps very green. We do not know it by this name; should be obliged by a small specimen in order to be able to recognize it.

ORIGIN OF THE DELAWARE GRAPE—*Mr. Garber*, writes—"Will you not, friend Meehan, direct our steps to that locality where 'you infer types of a grape similar to the Delaware may be found growing wild.' We have a committee appointed to visit these places at the proper time."

If the committee will please refer to page 165 of our last volume, they will discover all we feel disposed to say about the matter just now. From *professed* quotations, and unjust comments on what we have said, that have appeared in other journals, probably with the full knowledge of the "committee," we must say candidly that we don't feel safe in its hands, and prefer to give our own facts to our readers in our own way, and in our own time.

FUNGUS AMONG CUTTINGS—"A Subscriber," *Newport, R. I.*, alluding to communications on this subject, thinks it is caused by similar laws that produces "fever and ague," and the best cure would be to move out of the locality. Those who are troubled with this pest in "high and dry" places, as we know scores who are, will not be willing to subscribe to this doctrine.

YELLOW IN THE PEACH TREE.—We have on hand two very interesting articles detailing some new observations on the cause of this disease; one by Mr. Dana, of Roxbury, Mass., and the other by Miss M. Morris, the distinguished Entomologist, which will appear in our next.

MR. BRIGHT'S VINE BORDERS.—A Correspondent, dating from Philadelphia, writes that there is no novelty in Mr. Bright's ideas as given in our February number, as "it has been practised for many years by some of the best gardeners in Britain." Whether this be so or not is not so material, as the fact that Mr. Bright has the credit of being the *first to publish it*. We shall be much obliged by our correspondent's promised favor as to the places and details where the mode has been put in practice, and are well assured that no one will be more ready than Mr. Bright to render honor where honor is due, when that has been sufficiently demonstrated.

COTTAGERS' KALE—*J. C. B., West Philadelphia*, says, "Last Spring, I obtained from England, a package of Cottagers' Kale, which, you know, has a great name there for hardiness. I left them out without any protection. Three-fourths have been killed, or "severely wounded" by the winter. If I let those

which have stood uninjured bear seed, will these on the average produce a hardier race than the originals? It appears to me, after all, not to differ much from the Brussels Sprouts, except in the one fact of hardness."

[The seedlings will partake of the superior hardness of the parent.]

CUMBERLAND HEART CHERRY.—A correspondent from Dover, Delaware, inquires whether a kind known in his neighborhood as "Cumberland Heart," is the same as Triumph of Cumberland.

[We never heard the latter so called. It has been called Cumberland Seedling and Cumberland Big-gareau, and is quite likely to be the same in the present instance.]

SAFETY IN RAILROAD TRAVELLING.—*A. L. Barker, Quincy, Ill.*, sends us an account of a new invention, which prevents cars and locomotives from being thrown from the tracks in case of meeting with obstructions. As Horticulturists are amongst the greatest travellers in the community, it is to be hoped that for their sakes at least, the invention will be speedily applied, and prove as successful as our correspondent anticipates.

QUOTE ACCURATELY.—At page 165, vol. I., *paragraph 1*, article Delaware Grape, we said a grape like the Delaware might be found on "the upper portion of the Delaware." In *paragraph 7*, same article, we said varieties of Isabella abound "in Delaware."

Mr. Hovey quoted us as saying "the Delaware grape is abundant in Delaware," and now says "our readers must judge whether we were correct or not," and refers then to the *first paragraph* to prove it. Does it prove it? We also are willing to let them judge.

Mr. H. innocently adds that there is nothing about Isabella grape in *paragraph 1*, and we add that we did not intend there should be, nor about "in Delaware" either; but there is both in *paragraph 7*, in their proper place for a fair quotation. We again repeat, "will our friends please be more accurate?"

PROPAGATING CUTTINGS.—*W. W. W., Oberlin, O.*—A temperature of 75° or 80°, and a close, moist atmosphere is the most necessary condition of success in striking cuttings. The common notions about draining and crocking cutting pots so particularly are "remnants of the olden time." Modern practice has shown that anything from a soft verbena to a hard oleander or ivy can be struck in water itself. Cuttings made with a clean cut, set in where the temperature and humidity are regular, will, for the most part grow. An atmosphere that demands continual water-

ing and shading to keep the cuttings from wilting is fatal.

PRESERVING FLOWERS IN THEIR NATURAL STATE. *G. F. Brown, East Newark, N. J.*, says, "I notice in your issue of last month an account of the way to preserve flowers in their natural state. I have since tried the thing and have succeeded admirably. The flower which I took was a very delicate salmon-colored rose, and it still retains its natural color and form."

APPLE PIE MELON IN MAINE.—*Dr. P. T. P., Rockland.*—Whether this would succeed or not in your latitude is worth the experiment. It will do well wherever the water melon will ripen.

PEACH CROP IN SALEM, O.—*Mr. Lipsey* writes that in his region there is good hope for a crop.

A CORRESPONDENT whose name we have lost, but the envelope seems to be marked "Mercer, Pa.," sends us a plant for name, which is *Lycopodium dendroides*.

MCDUGALL'S DISINFECTANT.—*U. C. V. Cleveland, O.*—We know nothing of this. Disinfectants of various kinds can be had at any large drug store, but we do not know that any of them are of much value for other horticultural purposes.

H. B. Lum, Sandusky, O.—Your plant is *Mimulus cardinalis*, from California.

TRUE BLACK HAMBURG GRAPE.—*Figo, Quincy, Ill.*—This can be had of most of the principal nurserymen near you. If there are none nearer, try *L. Ellsworth & Co., Naperville, Ill.*, and you will get them true.

CUTTING GRAFTS.—*C. D.*—It does not injure to cut grafts when frozen, but it is bad to leave them to freeze after being cut.

PROFITS OF RHUBARB.—A writer in the *Working Farmer* says, from three-fourths of an acre he sold \$500 worth.

GRAPE EXPERIMENTS.—In February number you make me say that one of my seedlings of Franklin grape was identical with its parent. I said but one of them resembled the Franklin, none were identical. The one which resembles the Franklin is a size smaller, but a better grape. Vine more hardy.

Truly thine, O. T. Hobbs.

JAPAN PLUM.—If you have any information in regard to the fruit mentioned in the enclosed extract from a country newspaper, you would doubtless confer a favor on your readers by laying it before them in your valuable *Monthly*:

"The New Orleans *Picayune* notices the large increase of the Japan Plum tree in that city. The tree is very handsome in itself, and the fruit, ripening when no other fruit is in season, the plums appearing in market as early as February, a most valuable addition to the products of the garden. One orchard in the neighborhood of that city, of about 300 trees, brought, last Spring, nearly \$4000." J. W.

[Probably the *Loquat-mespilus japonica*. Can any of our readers say positively?]

1. Is water from a bath-tub as good for watering plants as clear water?

2. Is the following, from a Boston paper, correct?

"*Hot Water for Plants.*—A writer in the *Boston Cultivator* recommends watering plants with water quite hot to the touch. The writer says he has fuchsias now in bloom, mere cuttings about six inches in height, not one failing out of seven, or even more cuttings, planted in a single pot and watered with hot water."

3. Will the *Helianthus*, advertised in your *Monthly* of January by J. W. Jones & Son, grow well and flower as far North as this? If so, will you please give some directions for its cultivation for the benefit of your numerous readers, and oblige

Yours, &c.,

J. H. H.

West Amesbury, Massachusetts.

[1. Yes.

2. Water at 90° is better for cuttings than a lower temperature.

3. It will probably do well with you. Sow it like Indian Corn.—Ed.]

GETTING WORMS OUT OF FLOWER POTS.—J. B. G.—Water with lime-water.

APPLYING SULPHUR TO GRAPE HOUSES.—J. B. G.—If you have a flue in it, mix the sulphur with clay, make a paint, and wash the flues with it. If no flue, then place on slate, and set in the sun about the viney. It may be put in water, and with a coarse syringe scattered over the vines.

BULLITT GRAPE.—Mr J. B. Garber writes that he hopes the name "Taylor" for this grape will prevail. He thinks the Bullitt will lead to confusion with the Bullet or Fox grape of the South, more likely than with the Cuyahoga of Dr. Taylor. He thinks it has not been distributed under the name of Bullitt prior to the Spring of 1859, and the change to Taylor could

easily be made. Mr. Bullitt took no care of the grape, and does not deserve to have his name connected with so valuable a fruit. Judge Taylor has distributed hundreds of boxes free of charge, from a love of pomology and his fellow man, and is more deserving than Mr. Bullitt of the honor.

Rather than retain Mr. Garber's letter for another month, we give the above abstract of his views. Our own views of this subject require but little explanation. There must be fixed rules in pomology, as in other sciences, which all ought to abide by, or the subject falls into inextricable confusion. The rule is, that he who first *raises* or *distributes* a fruit, or points out its *distinction* from other fruits, names it. As we understand the case, Judge Taylor named it and distributed it as the "Bullitt." He had the *right* to do so, and it is our right to acquiesce. All difficulty might be obviated by calling it "Taylor's Bullitt."

Some excellent scraps are on file from our friend "Chemist," for future use. In the meantime we are greedy enough to cry for "more."

Our notice of last month that matter for the Editorial Department should reach us before the 10th, has not generally been followed; a few articles that we should have been glad to have inserted this month, we regret to have to lay over.

Books, Catalogues, &c.

CATALOGUES.

Asher Hance & Son, near Red Bank, Monmouth Co., N. J. Retail Catalogue of Fruits and Ornamentals, amongst which we notice the hop tree, about which some of our correspondents have recently inquired.

John A. Bruce, Hamilton, Canada West. Flower and Farm Seeds; one of the best and most complete catalogues we have received from the extreme north.

Uri Manly, Marshall, Illinois. A comparatively new nursery; but we are pleased to see the spirit of enterprise which its catalogue manifests.

W. C. Strong, Brighton, Mass. Trees and Plants; filled with new and desirable things.

R. Buist, Philadelphia. Greenhouse Plants; though considerably shorn of older and worthless plants, the kinds noted desirable still make a voluminous show.

E. Y. Teas, Richmond, Ind. Quite a select list, especially in fruits, and "Cherries on the Mahaleb" offered in quantity.

Joseph Caldwell, Mount Ida, Troy, N. Y. A select list of fruits.

Edgar Sanders, Chicago, Ill. A select list of the choicer bedding plants and fruits.

We have also received the following; most of them excellent lists:

Ellwanger & Barry, Rochester, N. Y.; Dexter Snow, Chicopee, Mass., (Verbenas.) Ramsdell & Loud, Egypt, N. Y. Van Pelt & Heyer, Dubuque, Iowa; C. F. Erhard, Ravenswood, N. Y.; George S. Gaines, Peachwood, Miss.; W. H. Starr, New London, Conn.; C. B. Murray, Foster's Crossing, O.; H. E. Hooker & Co., Rochester, N. Y.; Fuller & Bartlett, Brooklyn, N. Y.; S. Feast & Sons, Baltimore, Md., excellent list of greenhouse and stove plants; Husmann & Manwaring, Herman, Mo.; M. B. Bateham & Co., Columbus, O.; T. G. Yeomans, Walworth, N. Y.; D. C. Brewer, Springfield, Mass.; H. A. Dreer's catalogue of flower seeds, Philadelphia; E. B. Quiver, Madison, Wis.; Cary, Peter & Cary, Louisville, Ky.

The Illustrated Pear Culturist—By an amateur. Published By C. M. Saxton & Co., New York.

This is a very handsomely gotten-up work. It enters into the Pear subject from its earliest history, and is a complete manual of most that has been said and done in relation to it. It is beautifully illustrated with Colored Plates of most of the popular kinds of pears, and, altogether, will be a valuable hand-book of reference to the pear culturist.

In a list of publications that the publisher thinks has given some "valuable and interesting information in regard to the culture of the Pear," he names the periodicals of Mr. Tucker, Mr. Hovey, and the *Horticulturist*. We were vain enough to think the *Monthly* had done a "little" that way also; but we are perhaps not up to the "standard" of value. We will try to improve in our friend's estimation.

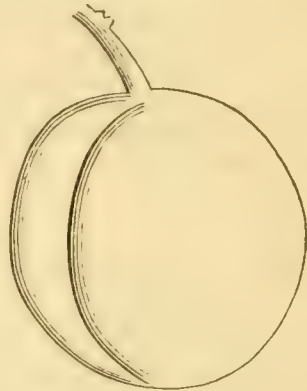
The Genesee Farmer, comes regularly on our exchange list. Few papers have done more during the past, to circulate and foster a taste for horticulture amongst a large class of the community who would not otherwise be reached; and we are glad to see it so well supported in its usefulness.

The Nebraska Farmer. We are pleased to receive so gratifying an evidence of progress from the Far West. The Horticultural department is under the management of Mr. E. H. Burches; which fact, will of itself render it a very welcome exchange. The *Farmer* hails from Brownsville, Nebraska.

AN OLD NURSERY.—One of the oldest in Pennsylvania is that of the Embree's, at Marshallton, commenced in 1791 by James Embree, grandfather of the present proprietors. It is perhaps the oldest existing one.

New and Rare Fruits.

PLUM, *Oberley's Greenwood*.—This is a popular plum in Bucks County, Pa., the origin of which we are unacquainted with. It appears, however, to be a very distinct kind, and we have made the annexed cut from a specimen sent us by a friend last Fall.



Fruit medium, nearly round, slightly flattened, with a distinctly marked suture; stalk $\frac{1}{2}$ an inch long, in a shallow cavity; skin amber, but nearly covered with rosy red, with a thin, pale violet bloom; flesh juicy, rather above second quality, and adhering firmly to the stone.

The fruit altogether is handsome and showy.

THE EMPEROR APPLE is highly spoken of by the best Western pomologists. Mr. Aldrich thus describes it in the *Prairie Farmer*:

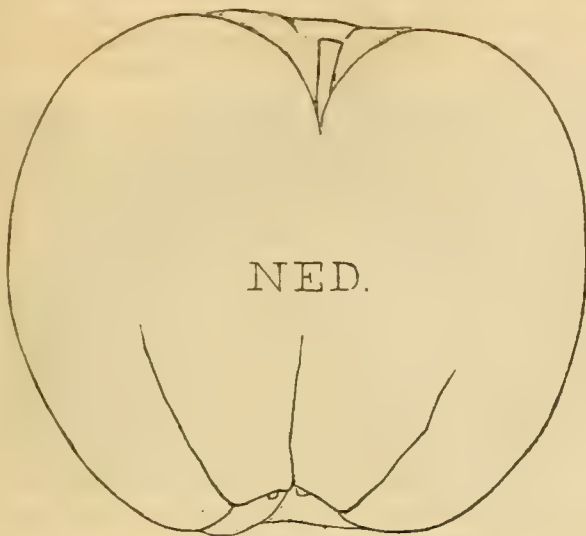
"Size medium, roundish, one-sided; color orange, striped and shaded with red on the sunside, covered with white specks; stem short and slender, deeply set in basin; calyx shallow, regular; basin deep and regular; core and seeds medium; flesh white, fine grained, crisp, tender, juicy; flavor pleasant, almost sweet."

We always thought it to be the same as the Emperor Alexander, but the description shows it to be altogether another thing.

DESCRIPTION OF A NEW SEEDLING APPLE, by Jno. J. Libhart, Marietta, Pa.

Read before the Fruit Growers' Association of Eastern Pennsylvania, February 1st, 1860.

Ned, (Libhart)—Size medium, $2\frac{1}{2}$ inches in length by 3 inches in breadth; form round, oblate, inclined to conical, obscurely and sometimes conspicuously ribbed; skin yellow, nearly the whole surface washed with deep red and thickly striped with broken stripes of still denser red, and dotted with numerous rough yellow dots; stem very short, does not protrude above the cavity, which is deep, narrow and often



irregular; calyx medium and partially closed, set in a moderately deep and rather wide, slightly plaited basin; flesh yellowish white, texture fine and tender, juicy, agreeable sub-acid flavor and some aroma; in season from October to Spring, always fair, a good keeper and remarkably productive.

History—This Apple, which we consider truly valuable on account of its many excellent qualities, originated in Marietta, Pa. The tree, when only a few feet high, was found growing very near a fence post, where it had sprung up. It was removed to its present locality by the then aged mother of the present proprietor, Mr. Edward Saylor, who is here known by everybody by the sobriquet of Ned, and in whose honor it is now named by the describer.

The tree, now about twenty years old, has not attained a very large size, but is

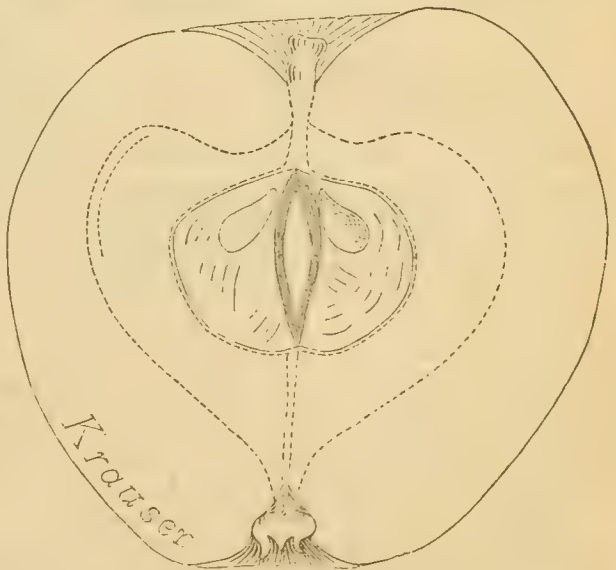
vigorous and healthy. In habit it is inclined to be straggling; shoots slender and a deep red color; the fruit is evenly distributed over the tree and is not liable to be blown off. Although much neglected, and having been partially blown over, and never pruned, it bears annually heavy crops of fair fruit; and whilst the Smokehouse and other varieties growing near it are seriously injured by the apple worm (*Carpocapsa pomonana*,) it escapes uninjured. This immunity from the attacks of the worm is probably owing to some peculiarity of the character or early form of the calyx, which renders it unsuitable for the maturation of the ova of this formidable insect. Considered by the committee in quality worthy of propagation.

KRAUSER, (*Krowser of Downing*.)—Specimens of this fine apple were exhibited at the Lancaster Fruit Growers' Meeting, and excited much attention for its many good qualities.

It is said to belong to Berks Co., Pa. It is very peculiarly formed and is readily distinguished by its marked characters from other varieties.

Fruit above medium, conical; flesh white, juicy, crisp, with a pleasant sub-acid flavor; skin thick and leathery, yellowish, nearly covered with vermillion dots and stripes; stalk short and thick, in a shallow cavity; calyx partially closed and recurving in a small plaited basin.

It is said to be a native of Berks County, Pa., and a regular and abundant bearer.



THE CORNWELL PEAR is described in the *Homestead* as being one of the best known in that neighborhood. Col. Wilder and other pomologists cannot identify it with any known variety, though it is not known to be a seedling, and it is proposed to give it the above name. It is thus described:

Description—Medium, roundish, smaller ones slightly obovate, greenish yellow, with many dark and purple specks, and much russeted; stem longish, and moderately stout, in a very narrow cavity; calyx slight in a very shallow basin; flesh yellowish white, tender, melting, juicy, with a spicy flavor, slightly astringent; ripe about September the first; origin unknown here.

STRAWBERRY, *Wizard of the North*.—This is the latest new English Strawberry, and is believed to be the largest yet raised. We have recently seen a colored plate taken from a photograph of one on exhibition in Scotland, and counted fifty berries on the one plant.

New or Rare Plants.

CAMELLIA SASANQUA.—Variety *anemoniflora*; introduced by Mr. Fortune from China. It has white flowers about three inches across, with an anemone-like crown of yellow petals in the centre.—*Bot. Mag*. We look on this as the foundation of a new race among Camellias as the pompones were among Chrysanthemums.

STATICE BOURGIEL.—Nat. ord. Plumbaginaceæ. From the Lancerotte Islands. It is allied to *S. puberula*; handsome, but not more so than most of the other well known kinds. It is a greenhouse plant of easy culture; figured in *Botanical Magazine*.

CALCEOLARIA FLEXUOSA.—An annual from Peru, with large trusses of orange yellow flowers. We think it likely to prove equal, as a bedding plant, to *C. pinnata*, described in a former number, and hope our seedsmen will import it for us. The figure is in *Bot. Mag*.

GUTIERREZIA GYMNOSPERMOIDES.—A weedy looking perennial herbaceous plant, with orange yellow aster-like flowers, from New Mexico.—*Bot. Mag*.

DIPTERACANTHUS HERBSTII.—An acanthaceous plant, figured in *Botanical Magazine*, and appears to be desirable. The leaves are like *Cyrtanthera magnifica*, and the flowers are produced in large heads, are each possessed of very long tubes of a rich purple, with a paler mouth to the corolla. It is a stove plant from Brazil.

CEREUS TRINITALENSIS.—Allied to *C. extenseas*, but is larger in all its parts. The flowers are very large, flowering in the night, of a yellowish white, stained with purple at the base of the throat. It has a fine fragrance. Introduced from Trinidad.—*Revue Hort*.

CEREUS OLIVACEUS.—This is from San Domingo, and is allied to *C. eburneus*. It is a strong branching kind, green, with a red, olive hue on the growing points of the shoots. It has not flowered yet in France.—*Revue Hort*.

AMARYLLIS SYMONII is a new variety, obtained from a cross between *A. vittata* and *A. psittacina*, by M. Symon Brunelle. It is yellowish white, striped with green and pink, and is, says *Horticulteur Praticien*, "a marvel of its kind."

COCHLIASTEMA ODORATISSIMUM.—A leaf plant, sometimes called *Tradescantia odoratissima*. It has some resemblance to *Tradescantia discolor*.

MAHERNIA ODORATA is described and praised in the *Horticulteur Belgique* for its sweet yellow flowers. The plant has for some long time been grown in American Nurseries, but is not as common as it deserves to be.

ORIGANUM SIFTYLEUM.—A species of basil or marjoram; is recommended by the editor of the *Garten Flora*, as a beautiful plant for rooms and cabinets, for its small rosy flowers and so sweet a fragrance.

CALATHEA FASCIATA; also called *Marantha fasciata*. It has the leaves striped with white and green in a beautifully variegated manner, and is described in *L'Horticulteur Praticien*, as one of the prettiest of leaf plants; the flowers are white.

FARFUGIUM GRANDE, as it was called by Lindley, and which is now becoming common in our greenhouses for its singularly spotted leaves, has now been removed by Prof. Schultze to *Senecio*. *S. FARFUGIUM*.—The flower is yellow and not at all striking for beauty.

DATURA WRIGHTII is a native of California, and is the same, *L'Horticulteur Praticien* says, as the *D. meteloides*, sent out by Vilmorin. We saw it in flower the past season, and find it to very much resemble our Jamestown weed.

ECHINOCACTUS BUCKII.—It is a small growing globular kind, with rose colored flowers, 1½ inches across, opening during sun shine. Introduced from Mexico to the German Gardens.—*Hort. Prat*.

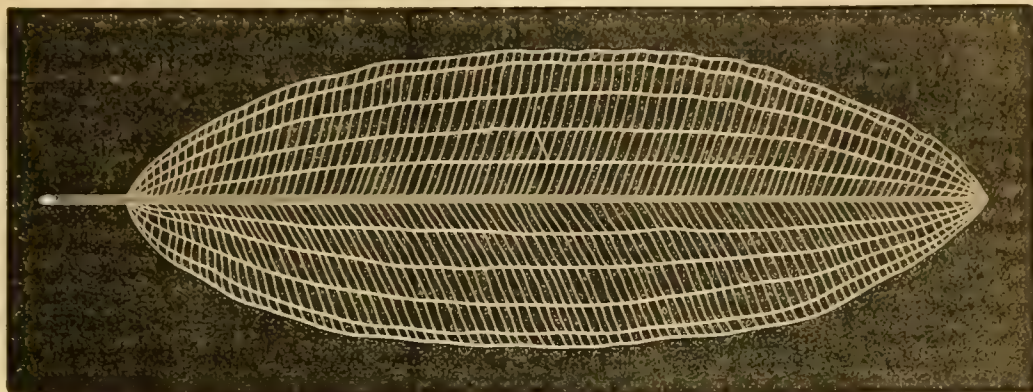
SAXIFRAGA PYRAMIDALIS.—An Alpine species, growing on mountains, and producing numerous flowers on a large panicle about three feet high. It is an old plant, but scarce in European gardens. Recently figured in the *Revue Horticole*.

LYCHNIS HAAGENA.—A hardy perennial obtained by crossing *L. Fulgens* with *L. Sieboldii*. Flowers of a rich, orange scarlet, two inches or more in diameter, the petals having a singular spur-like lateral lobe about half way down on each side. This variety was raised at Erfurt, by M. Benary.

OLEA ILICIFOLIA.—Another exceedingly handsome hardy evergreen from Japan, with leaves like the holly, and serrated. Flowers white and sweet scented.

SYRINGA OBLETA.—A fine, hardy, deciduous shrub, about the size of the common Lilac, but more tree-like in habit; leaves large, fleshy, oblately cordate, as broad as long; flowers freely produced and very ornamental, about half as large as in the common sort, arranged in a thin, loose panicle. There are purple flowered and white flowered varieties, both introduced by Mr. Fortune, from China.

Ouvirandra fenestralis, lace leaf or lattice plant.—In the tank of the magnificent Victoria house of James Dundas, Esq., of this city, is growing the only specimen, perhaps, of this wonderful plant, on this continent. Most of our friends who have had the opportunity of reading Ellis' recent work on Madagascar, have had their curiosity sharpened to see or to know more of this singular effort of vegetation.



By permission, we have made the above drawing of one of the leaves, and also append below, Ellis' account of it. In the drawing the white lines represent the leaf. Mr. Pollock deserves great credit for his success in growing it.

"The *Ouvirandra* is not only a rare and curious, but a singularly beautiful plant, both in structure and color. From the several crowns of the branching root, growing often a foot or more deep in the water, a number of graceful leaves, nine or ten inches long, and two or three inches wide, spread out horizontally just beneath the surface of the water. The flower-stalks rise from the centre of the leaves, and the branching or forked flower is curious; but the structure of the leaf is peculiarly so, and seems like a living fibrous skeleton rather than an entire leaf. The longitudinal fibres extend in curved lines along its entire length, and are united by thread-like fibres or veins crossing them at right angles from side to side, at a short distance from each other. The whole leaf looks as if composed of fine tendrils, wrought after a most regular pattern, so as to resemble a piece of bright green lace or open needlework. Each leaf rises from the crown on the root like a short delicate-looking pale green or yellow fibre, gradually unfolding its feathery sides, and increasing its size as it spreads beneath the water. The leaves in their several stages of growth pass through almost every gradation of color, from a pale yellow to a dark olive green, becoming brown or even black before they finally decay; air-bubbles of considerable size frequently appearing under the full formed and healthy leaves.

It is scarcely possible to imagine any object of the kind more attractive and beautiful than a full grown specimen of this plant, with its dark green leaves forming the limit of a circle two or three feet in diameter, and in the transparent water within that circle presenting leaves in every stage of development, both as to color and size. Nor is it the least curious to notice that these slender and fragile structures, apparently not more substantial than the gossamer, and flexible as a feather, still possesses a tenacity and wiriness which allow the delicate leaf to be raised by the hand to the surface of the water without injury."

PRUNUS TRITOBA.—This is a beautiful dwarf, hardy, Spring flowering shrub. The long slender branches are in Spring loaded with compactly semi-double flowers of a delicate pale rose color. The leaves are later than the flowers. It is a Chinese plant.

CHAMÆTIA FOLIOLOSA is another acquisition from California, of the tribe Rosaceæ. It is a pretty hardy evergreen shrub, with foliage like a mimosa. The plant grows two or three feet high, branched, compact and erect; leaves broadly ovate in outline, fernlike, tripinnately dissected, leaflets numerous, small, oval and hispidulous, flowers white, Rubus like. The foliage is exceedingly elegant, and has when rubbed, a strong resinous, cistus-like odor. It is considered likely to prove a favorite dwarf, hardy evergreen.

DATURA CHLORANTHA.—A very handsome double flowered variety. Flowers yellow, double, showy, tubular and sweet scented; of a low spreading habit, and producing flowers seven to eight months during the year. It is a native of India.

CLEMATIS VITICELLA v. VENOSA, is a hardy, climbing, flowering shrub of great beauty. The flowers are nearly four inches in diameter, of a rich purple color, each petal being veined with crimson, and having a red crimson tipped ray running from the base to the apex; the white styles are tipped with it. It continues in bloom all the Summer and late into Autumn.

GRAMMATOPHYLLUM SPECIOSUM (*Showy Grammatophyllum*).—This gigantic orchid has for the first time been bloomed in full splendor by Mr. Carson, gardener to W. G. Farmer, Esq., of Nonsuch Park, Ewell. It bloomed last October. Its pseudo-bulbs are nine feet long, its flower-scape six feet!—flowers in panicles, each flower six inches across, yellow and richly blotched with deep red purple. It is "queen of orchideous plants." Native of Java, and other islands of the Indian Ocean.—(*Bol. Mag.*, t. 5157.)

DENDROMECON RIGIDUM—A poppy with a woody stem and branches, quite hardy and a really handsome plant for Summer flowering.

BEGONIA MARSHALLII.—Hybrid, between *B. Rex* and *B. splendida argentea*. Leaves nine inches long and six broad; a broad silvery metallic lustre covers the greater part of the leaf; there is an edging of bright crimson on the young leaves which is pretty.

STATICE BONDUELLI (*Bonduelle's Statice*.) Found by M. Bonduelle in North Africa, and sent to Kew by Mr. Thompson, of Ipswich. Flowers yellow. "One of the prettier of a very pretty genus." Flowers during the summer months in a greenhouse.—*Bot. Mag.*, t. 5158.

LLAVEA CORDIFOLIA, (*Heart-leaved Llavea*.)—One of the most beautiful and most rarely cultivated of Ferns. Native of Mexico. Requires a warm greenhouse.—*Ibid.* t. 5159.

BEGONIA FRIGIDA, (*Frigid begonia*.)—A very dwarf species. Leaves coppery-green above, and deep rosy red beneath. Flowers white and insignificant.—*Ibid.* t. 5160.

DIDYMOCARPUS PRIMULÆFOLIA, (*Primrose-leaved Didymocarpus*.)—Native of Ceylon; flowered at Kew in November, 1859. Leaves very hoary; flowers pale lilac, in small cymes.—*Ibid.* t. 5161.

ROOF GARDENING.—Several of the English periodicals, literary as well as horticultural, have been discussing of late the subject of urban gardening, and more particularly the practicability of growing plants and flowers on the roofs of city houses. We have copied from "*Once a Week*," a fancy sketch of what a roof garden might be made to represent in order to induce, if possible, some of our many city readers to introduce the practice into some of our large cities.

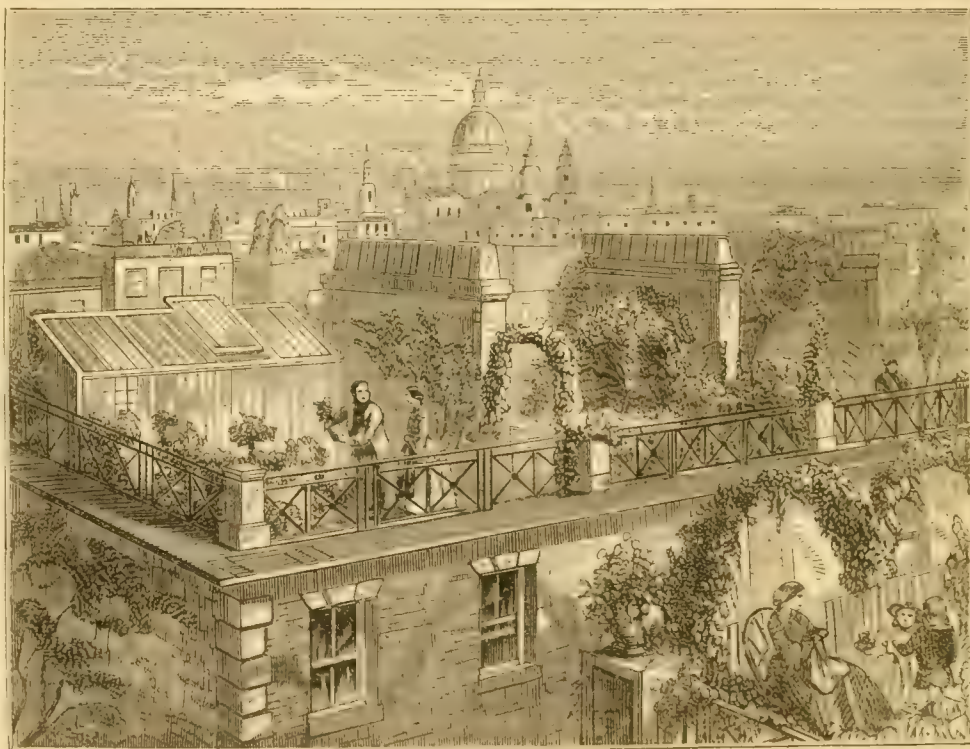
THE AMERICAN POMOLOGICAL SOCIETY. The President, Hon. Marshall P. Wilder, has appointed the 11th of September next as the day of commencement for the session.

TO POISON MICE AND MOLES.—Bore inch and a half holes in a block of wood, mix arsenic with a hundred times its bulk of flour, meal or other substance which they like to eat; fill the holes partly, and place them on their sides in the burrowings.—*C. Gent.*

THE PAMPAS GRASS has stood out the past two winters, near Philadelphia, by having dry leaves thrown over it in the Fall, and a little brush to keep them from blowing away. It is a noble object on a lawn when in flower.

Foreign Intelligence.

NEW BRANCHING BROCOLI. A variety has been produced in England that bears several dozen heads on the one plant. From a cut in the *Gardener's Chronicle*, it appears to be a desirable novelty.



NEW FORCING CUCUMBER.—At a recent meeting of the British Pomological Society, Messrs. Milne, Arnott & Co., of Vauxhall, produced a basket of six fruit of a new seedling winter Cucumber, which was named the Winter Prolific Cucumber, from its property of bearing an abundance of handsome fruit during the winter. The fruit is white spined, of a dark green color, averages about fourteen inches long, is very straight, and of a uniform thickness of about an inch and a quarter throughout. The flesh is very solid and of excellent flavor. It was considered a very valuable and fine variety.

DEATH OF DR. VOGEL THE BOTANICAL TRAVELLER IN AFRICA.—Mr. Herman, Consul at Tripoli, has just informed the family of Dr. Vogel, that this unfortunate traveller was assassinated immediately after his entrance into the Wady. He had his information from the Sultan of Bornou.

Foreign Correspondence.

From our English Correspondent,

CHESTER, Eng., March, 1890.

The Orchard House question has engrossed a great deal of attention of late years; but, amongst the many statements publicly given, for and against, I am sorry to find such diversity of opinions. In a climate so uncertain and changeable as this; and where good fruits are so highly valued and glass and building material so very cheap, I cannot but wonder that they have not, ere this, become an indispensable adjunct to every gentleman's well-kept establishment, when real comforts and pleasures are sought after. The late Spring frosts and ungenial weather of last season will, I trust, go far to prove their real utility. I may here state that I am an advocate in their favor, when carried out to the full extent of their title; but I object very much to the childish playhouse structures one so frequently stumbles against in some out of the way corner, and stocked with a miscellaneous collection of poor scrubby-looking trees—with their roots hard-bound and distorted, in pots that require no ordinary skill to maintain their existence, much more to fruit them satisfactorily. The owners of such are, doubtless, the non-advocates.

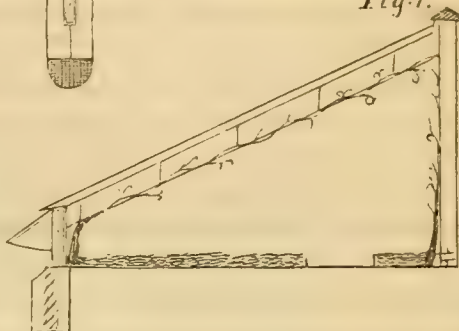
I feel fully convinced, from personal experience and careful observation, that Orchard Houses are not only a pleasant possession, but a very profitable one when rightly constructed and skilfully managed. As a commercial speculation, I have proved them to be a successful investment. I had an occasion to call upon a very shrewd tradesman in Hampshire, in the month of October, of 1857, who shewed me a vinery he had erected and planted three years previous. It

was a lean-to of the simplest construction. I have enclosed a rough sketch, Fig. 7, 200 feet long, which

Fig 8.



Fig 7.



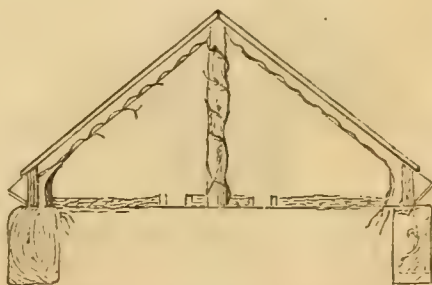
[Fig. 8 is section of bar, showing the mode of glazing, by nailing thin strips of wood over the sides of the glass.]

cost ten shillings per lineal foot. A few bunches was cut from each vine the second year, besides an excellent crop of well-ripened Peaches and Nectarines, from the back wall, which had been planted previous to erecting the house. A finer crop, or better flavored grapes I never witnessed. I was then informed the fruit were sold to a fruiterer for £40—good interest, I consider, upon £100. The Peaches, etc., from the back wall, paid for manual labor and incidental expenses.

The same gentleman had erected a house upon a like scale, but loftier, for Peaches, Nectarines and Apricots, which had proved equally satisfactory.

The same season I visited several Graperies in Guernsey or Jersey, all constructed in a similar manner to figure 6.

Fig 6

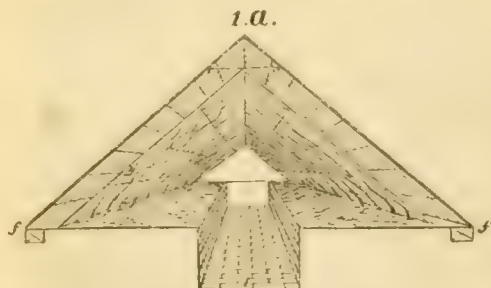


The fruit is grown chiefly for the English market

A more beautiful or luscious sight can scarcely be imagined than these glass sheds presented. They do not merit the title of houses.

I also visited the garden at Basing Park, Hampshire, where is an Orchard House 300 feet long and 25 feet wide, constructed of wrought iron; (I hope to be able to send you a sketch of this in my next letter). This house had a very imposing effect, and was entirely devoted to Peaches, Nectarines, Pears, Plums, etc., with the exception of a few potted fruit trees placed above, more for curiosity than real utility. All the trees, in this as well as the former, were planted in borders, and each class of fruits had a house or partition devoted to themselves. On these two points success mainly depends, so that each may receive the peculiar treatment they require. All nostrums are carefully avoided. The borders are first well-drained, then composed of rich turfy loam and a little well-decayed manure for Vines, Peaches, &c. When the soil is good manure should be entirely excluded, and frequent copious applications of weak manure-water applied while the fruit is swelling. In pruning, I consider it best to be done, in the case of Bush plants, in the summer season, with the finger and thumb, which will cause them to form fruit-spurs. If these become too thick, then thin in early spring; and should they become barren or over luxuriant, lift them annually in autumn, and replant. *Give abundance of air at all times*, when the weather is favorable; this I believe to be one great cause of failure in the management in this country, by excluding fresh air, and treating them as tender exotics. Water freely when growing, and withhold more or less to promote flavor and ripen the wood in autumn.

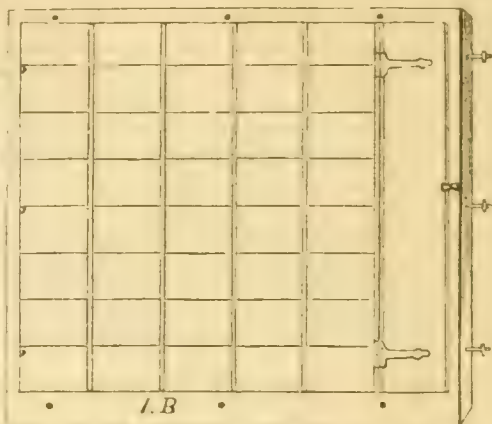
With the accompanying sketch, I offer a few remarks upon the construction, adaptability and various merits. Nos. 1, 2, and 3, are plans of own invention, which I have had erected in various parts, and very successfully. Figure 1 *a*, is a section and interior



[1 Path. 2 Wire for training trees upon. A very cheap and convenient house.]

view, adapted for either Vines or Peaches, can be erected either permanently or temporary, The

roof is in separate divisions, and bolted together, as shown in figure 1B, and screwed upon the wall plate,



with a wooden shelter or lap for ventilation, same width as glass. The path is sunk below the surface to economise space. This is a very convenient portable house, requiring but a few minutes labor to erect; and when not required in the winter season, can be stored away: care being taken to have the screws well oiled at all times. The trees are benefited by such exposure, as it tends to ripen the wood still better.

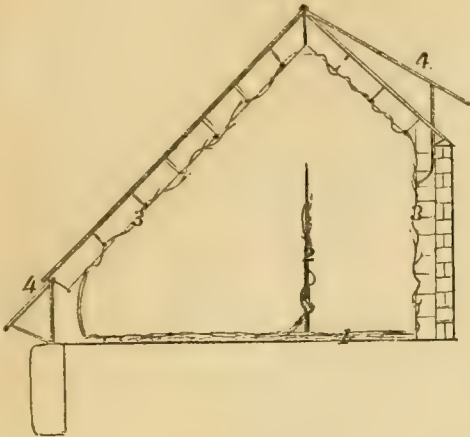
Fig 2



[1 Paths. 2 Iron pillars supporting rafters on which vines are trained. 3 Trellis for training Peaches, &c. 4 Narrow sashes for ventilation. The whole length of the centre is planted with standard and dwarf trees, such as Peaches, Figs, &c.]

Figure 2 comprehends a span and two lean-to houses, by means of which much space is gained. In all cases the rafters and bars are fixed, and ventilation admitted by means of side lights or flaps. Narrow lights are by far the neatest and best. A door opens in the centre of each end.

Fig 3



[1 Path. 2 Upright trellis for training trees to. 3 Wires for training vines upon. 4 Moveable sash with back for ventilation, by means of an iron rod; the front is wooden flaps.]

Figure 3 is a span roofed house, erected against a wall; the ventilation is given by means of front flaps, and every alternate three feet of the back lights being made to move up on hinges.

Fig 4

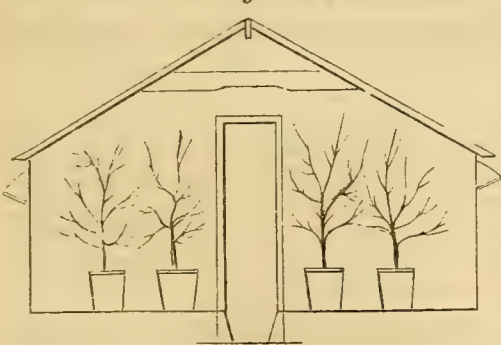
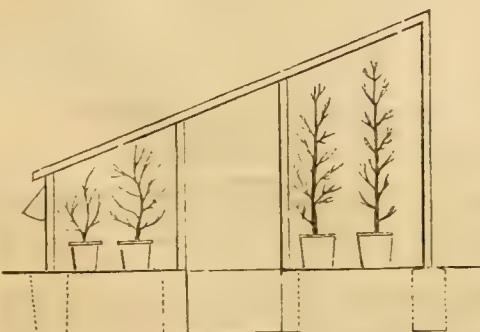


Fig 5



Figures 4 and 5 are copied from Mr. River's little

work on Orchard Houses. The sides are boarded, the roof affixed rafters, air admitted by means of back and front flaps or sliders. Now remove the plants from the pots into the border, then these will be very serviceable, cheap and durable structures.

A very interesting collection of plants has been lately received into Kew, from the Arctic region, through Captain McClintock, of the search expedition for Franklin. It consists of Cedrus, Saxifragas, Vacciniums, Ranunculaceæ, &c.

I am sorry to have to report the death of Barter, of the Niger Expedition, under Dr. Baker. After many hardships endured, he fell under repeated attacks of dysentery. Some rare and good plants have been received from him. His loss is sadly felt. He was known to be a good practical Botanist and cultivator, and an ardent lover of plants, for which he accompanied this important expedition.

Horticultural Societies.

LIST OF OFFICERS OF HORTICULTURAL AND POMOLOGICAL SOCIETIES.

For the information of those who wish to correspond with the different societies, we furnish a list of the Officers of as many of them as we have been able to procure, and hope to be furnished with any that are omitted. We insert only those societies of a strictly horticultural or pomological, and not of an agricultural character.

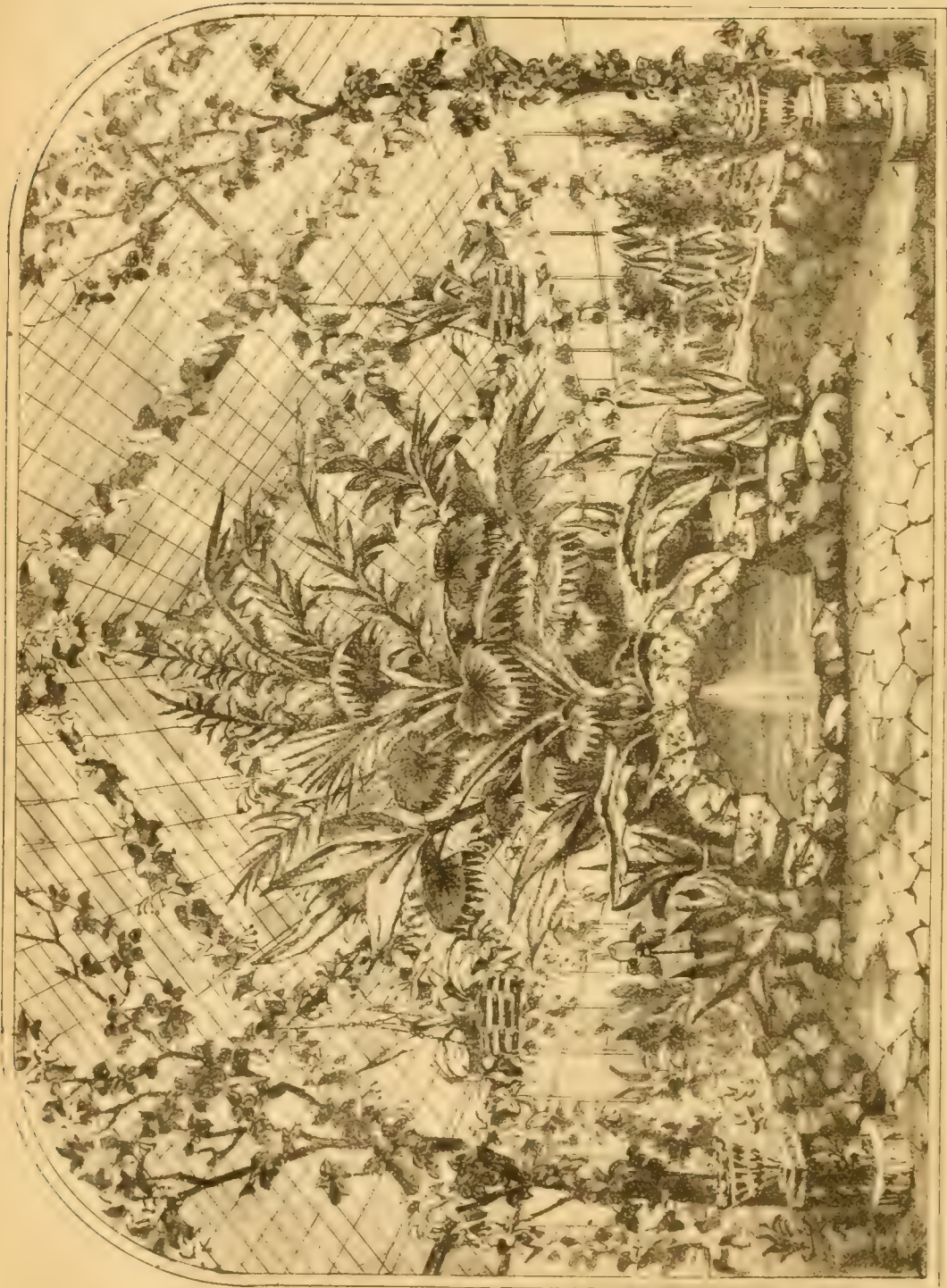
HORTICULTURAL SOCIETIES.

Name of Society.	President.	Cor. Secretary.
Massachusetts, Bos'n,	M. W. Baldwin,	William Saunders.
Pennsylvania, Phila.	John Groshon,	Thomas Hegg.
New York, (City)	T. C. Hersey,	E. P. Cranch.
Cincinnati, Ohio,	William Orange,	William Brown.
Montreal, Canada,	William Luna,	William Glasgow, Jr.
St. Louis, Mo.	William Glasgow, Jr.	Dr. Edward Taylor.
Cleveland, Ohio,	Joseph Harris,	C. W. Seelye.
Genesee Valley, Rochester, N. Y.,	Jno. W. Degrauw,	Edwin Scott.
Brooklyn, N. Y.,	T. C. Hersey,	John W. Dana.
Portland, Maine,	Thos. S. Kennedy,	Ormsby Hite.
Kentucky, Louisville,	James Taylor,	Thomas Shaw.
St. Catharines, C. W.,	John H. Hutton,	W. R. Smith.
Richmond, Indiana,	A. Bridgeman,	J. L. Towksbury.
Keokuk, Iowa,	J. D. G. Nelson,	H. C. Grey.
Fort Wayne, Indiana,	Jacob Tuckerman,	D. B. Pierson.
College Hill, Ohio,		Thomas Hargreaves.
Workingmen's, Frankford, Philadelphia,		
Progressive Gardener's Society, Philada,		
Meramac, Mo.,	Dr. A. W. McPherson,	R. Robinson Scott.
St. Paul's, Minnesota,	Alexander Buchanan,	Edward Vaughan.
Pittsburg, Penna.,	J. Knox, Pittsburg,	George Scattian.
		Thomas L. Shields.

FRUIT GROWERS' SOCIETIES.

Name of Society,	President.	Cor. Secretary.
Western New York,	B. H. dge, Buffalo,	C. P. Bissell, Roch'r.
East'n Pennsylvania,	Dr. J. K. Eshleman,	Thomas N. Harvey.
	Downing'n, Pa.,	Jennersville, Pa.
Missouri,	Norman J. Coleman,	Dr. L. D. Morse, Allentown, Missouri.
Ohio Pomological,	A. H. Ernst, Cincinnati, Ohio,	M. B. Bateman, Columbus, Ohio.
Am. Pomological,	Marshall P. Wilder, Dorchester, Mass.	Meets in Philad'a, September 11th.
Conn. Grape Grow's,	Col. D. S. Dewey, Hartford, Conn.	M. C. Weld, Hartford, Conn.
Wilmington, Del.,	Hon. John Wales,	Dr. G. Pepper Norris.

We have received the report of the last meeting of this vigorous young society, and are pleased to find that it is now fully organized and progressing.



INTERIOR OF A HOT HOUSE.

L. N. Rosenthal, Lith. Phila.

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

MAY, 1860.

VOL. II.--NO. 5.

Hints for May.



FLOWER GARDEN.

The month of May having come, there will no longer be any dread of Spring frosts, and their disastrous consequences to tender plants; and green-houses, cellars, frames, and every little nook and corner, where plants have been preserved through the winter, will speedily be emptied of their contents.—Many of the flower beds have been filled with Hyacinths, Tulips and other Spring-blooming bulbs.—Unless very thickly planted, the Summer-blooming border plants may be set out of their pots in between these,—that is, if they are done flowering. Tulips will probably scarcely have had their bloom over, and must remain longer. If any pressing necessity exists to remove such bulbs, with care they may be transplanted, watering the soil before and after transplanting. They can then be put in any spare spot where they will not be in the way for a time. Transplanted bulbs, however, seldom bloom so well the next season. It is very important, where this is an object, to retain the foliage fresh to the latest possible period.

As the plants in the borders grow, those in masses may be much improved by being pegged down over the surface. We can then train shoots where we wish, and thus cover the beds much sooner. Pegs for this purpose are best made by getting any straight shoots of trees, about one-fourth of an inch thick and cut into four-inch lengths, then splitting them down the middle into two. These pieces are then bent in the middle like hair-pins. Pieces so split seldom break in doubling.

The first week in May is usually the time to set out Dahlias. They do best in a trenched soil, say eighteen inches deep at least, and prefer cow-manure to any other when it can be obtained. If planted on thin or dry soils, they will not bloom till near the

approach of frost, when the chief enjoyment of the Dahlia is lost. It is best, where possible, to plant a duplicate of each kind.

Tuberose should also be planted this month, but they like a warm rich sandy soil; though, like the Dahlia, they do not like dry soil. As a rule, Tuberose that flowered last Fall will not do so this, but the offsets will do so the year after.

Amaryllis formosissima, or the Jacobea lily, flowers usually very beautifully in the open border in August, and should now be planted. Many kinds of annuals that have been raised in pots or boxes, in windows or frames, should be transplanted into the open ground whenever the weather is favorable, that is showery or dull. The pots containing them should be well watered before the plants are lifted, and the soil into which the seedlings are planted is best dampened, or what is perhaps better, well watered the day before, so as not to require a heavy watering immediately after the seedlings are planted. Too heavy waterings render the ground hard; and this, when dry, becomes unsuitable to the growth of plants.

In transplanting any thing that has roots large enough to admit of the practice, it is best to dip the roots, immediately before planting, into water. This will obviate the necessity of after-watering, and its consequent injurious effect. If the plants appear to flag, shade or put an inverted flower-pot over the plant for a few days; if this does not bring the plant to, it must have water.

Trellises and stakes for climbing plants and vines should be put in at or before setting out the plants. These plants always seem to grow with more freedom and vigor when they can find something at once to cling to. Climbing vines add greatly to the interest of a garden. They can be trained into all sorts of forms and shapes; and many of them, for gracefulness of form, or beauty of their flowers, cannot be excelled by any other tribe of plants.

In planting extensive flower-gardens, it is best to retain a few plants in pots, in case a frost or other accident should, by chance, destroy some of those set out earlier.

Pansies and Daisies should be set out in rather a shady and moist place,—not under the shade of trees, as the roots of these dry the soil too much.

The Hollyhock is become one of the most popular and useful of Summer bedding plants. They like a rich, warm and rather dry soil.

VEGETABLE GARDEN.

Melons, Cucumbers, Corn, Okras, Squash, Beans, Sweet Potatoes, Lima Beans, Peppers, Egg-plants, Tomatoes, and other tender vegetables that do not do well till the sun gets high, and the ground warm, should go into the soil without delay.

Bean poles should be set before the beans are planted, and near cities where they are comparatively high priced, their ends should be charred. This will make them last some years.

Drumhead Cabbage, Savoy, Red Cabbage, Autumn Cauliflower, and other kinds of fall greens, should be put out at once. The soil can scarcely be too rich for them.

Keep weeds of all kinds down from the time they first show their seed leaves. It not only saves labor "in the end," but the frequent stirring of the soil vastly serves the crop. Sow a succession of vegetables every few weeks,—sometimes insects, sometimes frost, or occasionally other accidents will cut off a crop, and then there is some chance for its successor not wholly to disappoint.

HOT AND GREENHOUSE.

The plants here will soon be pretty much thinned by the demands of the flower garden, and pleasure-ground—the cellars and window-frames will give up their proteges, and a grand renovation of all things will have taken place. Nothing gives a more happy appearance to a pleasure-ground than to have the walks and particular spots about it lined and studded with Aloes, Oranges, Pomegranates, Lemons, and similar tropical plants, set out in tubs or large pots for the summer.

The scale insects often prove great pests. These are easily destroyed by syringing the plants with soap-suds heated to 130°. This was discovered many years ago by some cultivator of Pine-apples in England, but seems to have been lost to the knowledge of our modern cultivators. It has been tested on all kinds of insects by ourselves and friends during the past year, and found so simple and effectual, that if the *Monthly* had done nothing since its existence but bring the idea prominently forward, we should feel well rewarded.

Azaleas, Heaths, Rhododendrons, Camellias, and other tender-rooted plants, are often irrecoverably injured by being too long exposed to the hot suns under glass. If they are liable to such exposure, it is better to whitewash the glass, which will admit light without heat, and in some measure protect them.

A very good plan is to prepare a piece of ground in the open air, in such a way as most nearly to approach the kind of soil the different plants most delight in, and then, about the second week in May, turn them out of their pots into this prepared border. They will, of course, have to be lifted carefully into pots again early in the fall.

A shaded place should be selected for those which inhabit the more temperate climes, and for the citizens of the tropics the full sun will be much more desirable. For this open ground cultivation of choice plants, a shady spot does not mean under a tree, as the roots, and the drip, and the confined air, and the want of light, existing under such circumstances, are injurious.

Communications.

NOTES ON THE PEACH.

BY MISS M. H. MORRIS, GERMANTOWN, PA.

I have read with much interest the letter from Mr. Dana, enclosed in your note of March 1st, describing the effects of the Red Spider on the Peach trees in Massachusetts, and also examined with great care the eggs on the peach bark sent with the letter. This species is new to me.

I have no doubt of the truth of Mr. Dana's statement, that trees so infested will, and must be victims to such a pest, and that those trees do die of the yellows; but that the Red Spider is the only cause of yellows, I must beg leave to doubt. After years of careful investigation, I have arrived at the conclusion that whatever impedes the healthy circulation of the sap of that delicate tree will produce the yellows; and then, generally speaking, death is inevitable, and the sooner the tree is cut down and burned, the better it will be for the fruit grower, as it saves time and trouble.

That the Red Spider is not the only cause of the yellows in the Peach tree can be proved beyond doubt, as all intelligent observers will agree, that whatever cause obstructs the natural flow of the sap, either in the Spring or Autumn, will produce disease in that delicately organized tree.

The Peach tree, like the Grape vine, is supplied with a redundancy of sap, which pours into the large and tender sap vessels as soon as the first warm rays of the sun thaws the earth and quickens the sap in the roots; every bud swells, and the rushing sap struggles to expand itself in leaves and flowers. If this takes place prematurely, a severe frost follows, the sap freezing bursts the sap vessels, blights the leaf and flower buds, and a general disorganization of the functions of the tree follows. The sap obstructed in

its course forms a thousand new channels, shoots out in numerous sickly yellow twigs, and oozes out in gum from every wound or split in the bark, then the tree must die.

The well known *Egeria exitosa*, or Peach Borer is a fruitful source of the yellows in all the Middle and Southern States. This insect deposits her eggs in the bark near the roots of the Peach tree; the Grubs soon hatch and penetrate into the sap vessels, on which they feed ferociously, gnawing their tortuous paths in and around the roots, cutting off the passage of the ascending sap. For a time the tree shows no signs of the concealed foe; but as the Grubs grow large, and their paths widen, they girdle the tree, the branches then wither, and the sickly shoots in August show that death is inevitable. The Grubs should have been taken out in July; it is too late when the yellow, sickly shoots appear; then cut the tree down, burn it and kill the grubs, or you raise a family of enemies for the next year.

The *Tomicus liminaris*, a minute bark beetle proves, when numerous, a deadly foe to the Peach tree; this little insect sometimes makes its presence felt rather than acknowledged, as, both in the grub and beetle form it inhabits the bark, and seldom appears in the day-time; its flight is in the night, and it generally spreads from tree to tree, alighting on and infecting those branches and trees nearest the one first attacked: this, it is believed, is the infectious yellows.

A few years since, eighteen trees in my garden were destroyed in one summer by the *Tomicus liminaris*; the eggs were deposited in the sap vessels of the bark, all over the trees, and in one case not an inch of the bark escaped, from the top branch to the root; the irritation was extreme, somewhat analagous to the itch in the human skin. The obstructed, yet stimulated sap threw itself out at every bud in sickly yellow twigs, and the tree died of exhaustion. The disease spread rapidly, and eighteen trees were destroyed before the cause was discovered; they had been carefully protected from the borer, (*Egeria*) and the dark green of the leaves in the Spring showed that there was nothing in the soil that disagreed with the roots; the trees were then cut down and burned, and the infectious yellows disappeared from the garden.

When Peach trees have been cultivated for years in the same garden, the soil becomes exhausted of the nourishment that is essential to them; care should then be taken to remove the old soil and replace it with such as is well known to agree with Peach trees. Sickly trees may then become healthy and bear good fruit, but seedlings raised from unhealthy trees will generally prove sickly and die of the yellows.

In the neighborhood of Baltimore, the Peach is cultivated in great perfection and with little care; the

soil of that region is rich in mineral salts, such as alum and saltpetre. Does not this lead to the supposition that a judicious mingling of these would be essential in a soil where these minerals are not found? And Peach growers frequently mingle both these salts with common salt, and sprinkle it around their trees, and if the trees are free from insects the result is always good.

If these observations, drawn from a life of experience in the culture of the Peach, can be of service to you, it will give great pleasure to your friend,

M. H. MORRIS.

[We insert this communication with great pleasure, as probably no one in the world has devoted more time and careful study to the subject than the distinguished authoress, and in acknowledgment of whose services in the cause of Science, the Academy of Natural Sciences has recently conferred on her the degree of honorary membership—the first lady, we believe, who has been so honored by it. We have known Miss Morris' Peach trees to be heavily laden with fruit, when all have failed in the vicinity, attesting the value of her views by their success; and our own experience confirms her suggestions on the importance of mineral manures.—Ed.]

WAXING GRAFTS.

BY W. PICKETT, DEMING, HAMILTON CO., IND.

I concur with Mr. Mattison, in respect to the disuse of bandages. I make a composition of about five parts rosin, one part beeswax and enough tallow to make it of the right temper, a little harder than shoemaker's wax. I cleft-graft all. I keep the composition melted in a stone skillet. Two boys, eight years old, can wax about 2000 root grafts per day by pouring the wax on the grafted place with a spoon, holding it over the skillet to let the waste run back into the skillet, and then dropping the graft into a bucket of water. This holds the graft sufficiently without any bandage. In the nursery I put the wax on with a stick made flat at the end. I have my wax barely melted, and can wax twice as fast as with the fingers, and with this advantage also, the work can be done in the morning or late in the evening, and in cool days when wax can not be so worked.

RUSTIC ADORNMENTS.

BY JOHN M. SMITH, GREENVILLE, ILL.

Friend Meehan: I have often thought that many persons, living in the country, and with limited means yet with a taste which only needs encouragement to display it, might beautify their homes, and make them loved by their children, if they would only exercise their ingenuity during seasons when active, necessary labor on their farms could not be performed. During the winter months most farmers, particularly those who are not the best supplied with pecuniary means, have little actual labor to perform; and that is the

time to "fix up" their homes, and make them loved by their children.

I sent you some sketches some time ago, which you thought worthy of engraving and perpetuating in the *Monthly*, (September number, '59). This has encouraged me to "try again."

Rustic adornments, to be valued, should be constructed by the owner of the home he desires to beautify. A person with abundant means may pay an ingenious person to ornament his surroundings with articles of rural taste; but, in nine cases out of ten, they are never appreciated, and as seldom used. But when a man constructs a tasteful arbor or garden-seat, or rustic portico, etc., if it did not cost any money, he thinks none the less of it when he can look proudly upon his children enjoying the comforts of the same; and can even enjoy it himself when worn down by the toils of the day, calmly reflecting upon how much ease he has obtained at so little cost.

We must not suppose that none but the wealthy have a taste for the beautiful. I will admit that they are possessed with the power of displaying their tastes, far superior to the poorer classes; but give the latter an idea, and observe how much quicker they will act upon the hint—and improve it too—when they have the work to do themselves. For just such persons (and any others who may profit by the same) I pen, the present article.

During the winter collect the materials for constructing all rustic work, as the bark then adheres to the wood. Then is also a good time to construct the same. Timber which is durable in its nature, or which is not liable to be eaten by worms, is the proper kind to select, thereby preventing the disagreeable sensation of having spent a considerable amount of time and ingenuity for nothing. Cedar, Oak, Walnut and Willow are all good for rustic work; the latter for the smaller details; and all kinds of wood should be oiled once a year. In preparing the materials never cut the branches off too close, nor remove any knots or rough bark; and if mossy, so much the better. Always be sure and have enough material at hand for any article, so as to save the necessity of running to the woods for a piece to match or fit some place, when you have the article, perhaps, almost completed. Have straight, smooth-barked pieces of timber (or poles) for seats; these must be split and nailed on, the round side up. All pieces which are placed next to a square surface, as the side of a house, should be hewn flat on that side. Situation and purpose will suggest the size and shape of the material; but always "work in" as many crotches or "forks" as possible, not only because they look the best, but because they serve as braces, much better than if those braces are nailed on.

I send some sketches of work put up by myself,

while residing in Northern Iowa, slightly changed from the original design, which I hope will be of some benefit to others in constructing Rustic Adornments. These will suggest to the ingenious a variety of other articles upon which to exercise rural taste.

Fig. 1.

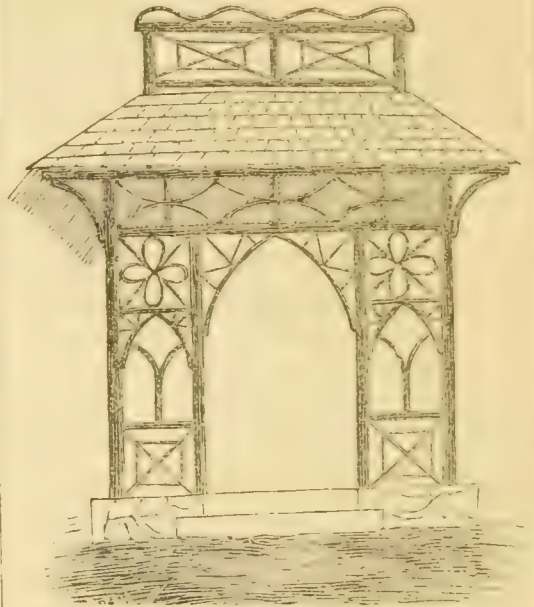


Fig. 1. is a front view, or elevation, of a portico, in Rustic style.

Fig. 2.

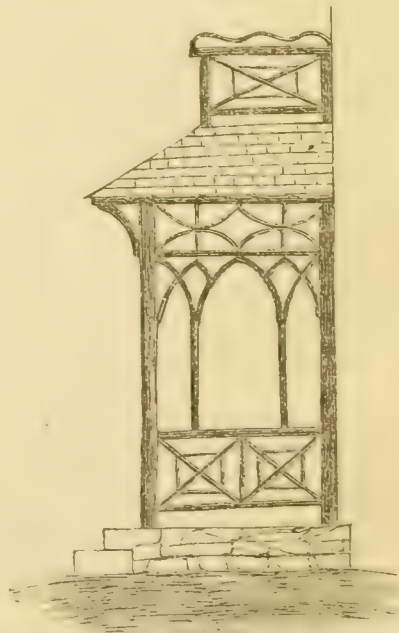


Fig. 2 is a side elevation. It is "hip" roofed and shingled, and has a balcony on the roof.

Fig. 3.



Fig. 4.



Fig. 3 is a front view of a window "hooded" in the same style; and fig. 4 a side view of the same. The window has a balcony extending to the ground, which may be used as a bed, in which to plant summer-running vines, to be trained over the window.

Fig. 5.

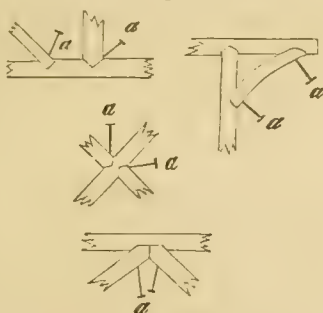


Fig. 5 contains several details of the proper manner of joining the pieces together; the letter *a* indicates the nailing of same.

PLANT FRUIT SEED.

BY DR. R. P. R., QUINCY, ILL.

Let me advise all those who are moving West, or going on to a new farm, if you have no money to buy fruit trees with, sow the seed and sow it the first year. It will not take over three hours of time. Do not think so much of the mighty bushel of wheat or corn; neither think that you will have plenty of money next year to buy with, for if you do you will be disappointed, take my word for it. You will have uses enough for every dollar that you will have even if your crops turn out well. Even if you should have money the next year there is nothing lost. Your little trees or Apple sprouts will sell for more

than they cost you. But if you are disappointed in money you have gained one year. You have really an orchard of fruit started. Do not say that you will not get any good fruit from the seed, for you can graft them just as well as any one if you will only think so. I know two young men who moved into Ohio; they paid out all their money for land. One sowed fruit seed the first year; the other waited to get money from his crops to buy the trees. The result is, the one that sowed the seed sold over \$1200 worth of fruit this last season, while the other has not fruit enough for the use of his family. He waited to raise his fruit by money instead of seed; he thought too much of the bushel of wheat. The other told me he would not give his fruit trees for all the land his brother owns—220 acres; and further, he says that "they have not cost me a single dollar in money, and while my brother is toiling and sweating in the harvest field I can sit under the shade of my fruit trees and gather my fruit when the weather is cool and pleasant."

Certainly a man that refuses to plant fruit, if he has but one acre of land, refuses one of the greatest blessings that the Creator has bestowed upon man.

NATIVE PLANTS FOR HEDGES.

BY S. L. B., BROOKDALE FARM, ME.

Fagus ferruginea—Some years ago, my attention was directed to the American Beech, (*F. ferruginea*), as a suitable plant for hedges, from the fact that in the open pastures on the borders of forests, the shrub had been trimmed up by cattle and I noticed it succeeded well under this rough treatment, thickening up and forming a shrubby and compact appearance. This led me to study it more fully, and I found it to possess qualities admirably fitting it as a hedge plant for Northern localities. These qualities are: it is a native of our soil, it is hardy and long lived, it is comparatively free from the attacks of insects, it will bear cutting, and if pruned properly will become thick and bushy, and will be impenetrable to man and beast; and it sprouts less luxuriantly than most other trees.

The method of making a hedge of the *Fagus ferruginea* is as follows:—Obtain the young sprouts from the woodlands, place them seven or eight inches apart, then bend them in opposite directions so as to cross each other and form a trellis, with apertures five or six inches in diameter. During the first year they should be bound with osier at the places where the sprouts cross, and in a short time they become grafted, and finally grow together at the points of intersection.

It is also reared without difficulty from the seed, and if the soil is good it will grow rapidly, forming a handsome and sufficient hedge in the course of five

or six years. The seeds should be planted thick, and the plants kept well pruned.

Betula alba—The White Birch, (*B. alba*,) has before been recommended for hedges. I do not consider it so good for that purpose, nor to possess so many requisites as the Beech. It has, however, one advantage—that of growing upon the poorest soils. It is also more liable to sprout than the Beech, but will bear any amount of trimming. The seed can be obtained very easily by laying down a sheet and bending the tree over, stripping it off at the same time. Turn one furrow where the hedge is wanted and sow the seed, covering lightly.

MANETTI ROSE STOCK.

BY JOHN SAUL, WASHINGTON, D. C.

Mr. Editor:—At page 39 of your volume for 1859, I made a few remarks upon the Manetti Stock from a lengthened experience with this and other rose stocks; another year of extensive culture confirms all then stated as well as develops other valuable qualities. Among the first of these is the ease and facility with which roses on this stock may be transplanted without risk of failure. Bearing upon this, I will give one fact—the Spring of '59, a patch of these stocks, about 15,000, from various causes were not planted out till quite late, (about the middle of May,) by which time they had put out shoots, six to nine inches in length. Previous to planting they were puddled but no further care given, though the weather at the time was dry and warm. As may be expected, all the young growth wilted. It was at the time remarked by a good nurseryman that I would lose a considerable proportion; such, however, was my faith in the Manetti that though I supposed I should lose some, I felt confident my loss would not be great; for three weeks after planting, the weather continued dry and warm. My favorite stock, however, did not disappoint me—not one in a thousand failed, and through the Summer and Fall it was as pretty a patch of stocks as my eye ever rested on. It may not be prudent to transplant Roses when budded on this stock quite so late, but such abundance of fibres has this stock, and so tenacious of life is it, that failures from transplanting at the regular seasons, with ordinary care, will be rare.

Cultivators of roses know well that plants grown in the open air are far preferable, if intended for the garden, than plants grown in pots in houses; the check which these last receive when transferred to the open garden is so great that it requires the first summer to recover, whilst many of the more delicate varieties linger and ultimately die. Cultivated in the open air, on their own roots, from the fewness of the latter and the paucity of fibres, they are diffi-

cult to transplant, and losses from this last cause are at all times heavy; hence, most persons who desire roses on their own roots prefer them from pots to the heavy risks they have to run when had from the open air.

Additional experience confirms what I have previously written, that many of our finest Roses require to be budded on a vigorous stock to enable them fully to develop their beauty; among these may be mentioned Cardinal Patrizzi, Dr. Henon, Eveque de Nimes, General Castellane, Gloria de France, Madame Masson, Prince Leon, Triomphe de Paris, Arthur de Sansal, Emperor Napoleon, Lord Palmerston, Ornament des Jardins, Prince de la Moskowa, and many other exquisite roses which cannot be cultivated to any degree of vigor or beauty on their own roots; all grow more vigorously and flower more profusely on this stock than on their own roots however vigorous may be the class or variety; but in an especial manner are the beautiful Perpetual Moss, Hybrid Perpetual, Bourbon Perpetual, Bourbons, etc. Midsummer, '59, with us was hot and very dry—during a long drought and fiery heat, when many things suffered severely, our roses on the Manetti appeared only to enjoy it; they grew apparently with more vigor and flowered the more profusely, whilst the exquisite delicacy of some, the brilliancy of others, and the beauty of all was enchanting. Revilers of budded roses should see our stocks under this fiery ordeal bearing unscathed and untouched, through heat and drought, those delicate and peerless beauties.

In the frigid soil of Canada, as well as in the "sunny South," in the deep, rich land of the Western prairies, or in the sandy gravel of the East, it bears alike the cold of winter and the heat and drought of summer; in all it is perfectly at home; or as an eminent horticulturist has said, "looks happy."

This stock, so admirably adapted for the various classes, I would in an especial manner recommend for one for which, so far, it has been but little used, I mean the fragrant but delicate Tea. This group is generally grown on its own roots, and in Northern latitudes is difficult to preserve out-doors during winter; lifting, potting and housing entails considerable trouble. A collection budded on this stock may be lifted on the approach of winter with as much ease as a collection of Dahlias heeled in a cellar, or any place free from frost, and planted out on the return of mild weather in Spring. These removals are productive of more good than otherwise, as, before planting out, the roots can be conveniently examined, trimmed, any rudiments of suckers removed, a little well rotted manure put in each hole where planted. Under this treatment, a collection of this sweet and

lovely class may be kept in the highest vigor and beauty.

[Some of our correspondents wrote to us that they considered Mr. Saul's article alone, last year, worth to them the whole price of the volume. For ourselves, we like Manetti stocks for weak growers, and in their absence should speedily look about for some substitute.—Ed.]

GARDENING FOR LADIES.

BY PRIMROSE, NEW BEDFORD, MASS.

We told you in our last, of some anticipated disappointment in the culture of *Primula sinensis*, but fortunately it was only in anticipation, and we have a large number now in very full and fine bloom, nearly all fringed, and a due proportion of white and pink. Our little greenhouse now contains about nine hundred plants, and every nook and cranny is packed to a degree inconvenient to the worker and visitor. But what is one to do? Such seeds to vegetate as those we have planted, such thrifty little things to grow! And who, after sowing and pricking out, after potting and repotting, can throw a plant away?

We have gone bravely through the severe frosts so far; with the Mercury outside 6° below zero, and only that thin glass to shield our luxuriant foliage and delicate blossoms!

Not a plant was touched, not a bud checked, and at least an hour a day of that inclement weather was passed at work in this cheerful refuge from the parched and scorched air of dining and drawing rooms, and the intense cold of out-of-doors. And this reminds one of the sad mistake we make in refusing to the inmates of our dwelling houses the advantages our plants receive from the soft and balmy atmosphere of *water heat*.

Two months of close attention and pleasant interest confirms our belief that it is woman's work to tend flowers; and, Mr. Editor, the great questions of this century are, what is woman's true and proper work? where will she find it? and will you allow her to do it when she does find it? We will not go further into the subject at present than horticulture may lead us, and propose, with your leave, to have a little chat with your lady readers, on practical matters, and to begin with *potting*.

The seed we have sown has sprung up and our plants are evidently large and strong enough to be allowed a separate home of their own. We have used some hundreds of three-inch pots, and putting in the bottom of each one, say $\frac{3}{4}$ of an inch of charcoal, broken to the size of a large pea, or half a nutmeg, and partly filling with potting earth which we gently press to make compact. We transfer with a delicate trowel or knife the entire and undisturbed

roots of our young plant. Perhaps we cannot describe the process better than by saying we make just such a nest for it in the pot as will bring it with its surrounding earth only enough below the upper edge to admit of watering without overflowing. With proper shading and care the plant in a few weeks will require more root room. Now prepare another; not too large a pot, say four or five inches across the top, with a good inch and a half of charcoal of nutmeg size for drainage, partially fill with earth, place your left hand over the top of the pot containing the plant to be shifted, separating the fingers to allow the stem to pass between, quickly but gently turn over, tap the bottom with your right hand and lift off the pot. The ball of earth, with its embedded roots, is under your eye for inspection; see that all is right. A little experience and the exercise of the same judgment you employ in deciding the "enough" baked of your loaf of bread or custard, and a little of the same dexterity you employ in turning a pancake, will suffice for this operation. But we beg pardon, we were thinking of your grandmothers who prided themselves on these useful matters.

For you these mental and physical qualities are now demanded to choose your worsted for crotchet or embroidery, and to finger the keys of your piano forte. The same long bony fingers which now sprawl claw-like over the ivory keys in vain efforts to create a concord of sweet sounds; or the same fair plump hands that delicately work the glowing Berlin into more or less creditable imitations of roses, camellias, and so forth; may *almost create* the living, fragrant realities by your gentle manipulation and watchful ministry, and this to the great advantage of your health and spirits.

See that the space between the sides of the pot and the ball of earth is compactly filled with earth, and use your fingers as far as practicable to do it; where too deep, with a blunt stick of fitting size and length settle the fresh earth firmly around the ball. You may protect your hands with India rubber gloves if you will but *use* them, and the frail roots will thank you that they are not rudely crushed and prevented from fulfilling their all-important offices. You will soon learn to reverence a flower; and as you realize in the unsightly bulb or the tiny seed the germ of the wonderfully beautiful and various blossom to be unfolded by the influences of light and air, water and heat, you will adore the creative power which provided its capacities and favorable conditions, and turn to the human plant with deepened interest to furnish for its far nobler development such culture and surroundings as its worth and duration demands.

ONIONS PER ACRE.—In Connecticut, 700 bushels is considered an average crop.

SUBSOILING.

BY JOSIAH HOOPES, WEST CHESTER, PA.

In the Report of the proceedings of the "Fruit Growers' Society of Eastern Pennsylvania," published in the March number of the *Gardener's Monthly*, I am represented as having said "that I had found it best to bring the substratum to the surface."

Now, this theory is entirely antagonistic to my views on the preparation of grape borders, as I firmly believe that nature never intended the delicate spongioles of the small roots to be forced to penetrate to a great depth in search of the proper nutriment which is essential for the growth of the vine; but that the natural position is close along the surface, where they can have full benefit of the air and sun, as well as a constant supply of nutritious, fertilizing materials.

The true purpose of trenching for the grape is to so loosen and mellow the subsoil that all abundant moisture may be quickly taken from the roots, and at the same time preserve a cool dry soil, thereby greatly increasing the health and vigor of the vine. Water, if permitted to stand near the surface of the ground for even a short time, will *inevitably stagnate*, and cause an unhealthy growth of wood.

In speaking of a dry soil I would not wish to create the impression that it should be perfectly so, for no plant is more benefited by a certain amount of moisture than the grape. But by having a porous substratum, the over-abundant water that falls during a long protracted rain, will be immediately carried off from the vicinity of the roots, which at the same time will contain more moisture during a severe drought, than any soil not so treated.

And for the same reasons above expressed, I sincerely believe that the placing of rich and exciting fertilizers at a great depth during the process of preparing the border to be a very erroneous idea.

In observing the beautiful and systematic operations of nature, in preparing the proper nutriment for aiding the growth of our native vines, we find that the annual deposits of decaying leaves, wood, and plants, is applied to the surface, and while they constitute a light mulching material, the small fibrous roots are supplied with nourishment from the same.

"POT CULTURE OF FRUIT TREES."

BY DR. GEO. PEPPER NORRIS, WILMINGTON, DEL.

The culture of fruit trees in pots is destined to become, at no distant day, we think, a prominent and pleasing feature in gardening. It opens a new field to the horticulturist; for at present, the growing of the Apricot, Nectarine and Plum have been comparatively abandoned on account of the ravages of the Curculio. Who is there so rash as to hope, if he

resides in the vicinity of Philadelphia, to obtain a crop of either of the above named fruits from trees grown in open air? This mode of growing fruit we think is destined to become popular with many whose grounds are limited in size. The cheapness with which glass-roofed sheds can now-a-days be constructed, will stimulate orchard house culture.

Formerly, the erection of a greenhouse, with its attendant sash and heating apparatus was too costly a matter to be thought of by any but the wealthy, but when it is now understood that fruit can be as well grown and ripened in a shed made of unplanned, rough boards, with a glass roof of fourth quality, 10 by 12 glass, as in the most elaborately built houses, many will be tempted to embark in this branch of horticulture who would otherwise have been deterred.

A cheap, rough, unpainted house of this description, 30 feet long, by 13 wide can be built for \$100. No border preparation is necessary, all that is required is that the trees should have the advantages of an unclouded roof—(no vines to be grown,) and plenty of ventilation.

Trees for pot culture can be procured any time during the Winter or early Spring, and potted in 11 or 14 inch pots, taking care to enlarge the aperture at the bottom of the pot, from 1 to 5 inches. The compost should be prepared some time previously, and may consist of a mixture of soil taken from an old pasture, together with leaf mould, well rotted manure and wood ashes, a sprinkling of bone dust will do no harm; the hole at the bottom of the pot to be covered with broken crocks and the most lumpy part of the compost placed thereon; the tree not to be placed too deep; the soil well rammed.

Severe pruning will be required, not only to give the tree a pyramidal form, but to recompense it for the mutilation of roots, which will take place in its transfer to the pot. No fear of too much pruning. Keep the tree bushy. After potting and pruning, set away in a cool dry cellar or outhouse until Spring when remove them to some well sheltered border, there to remain until the following winter, with an occasional moving during Summer months, to twist off the roots that may be coming through the bottom of the pot.

On the appearance of winter, the trees are to be again housed until the Spring of the second year; by this time they will have become accustomed to their new mode of existence and will be ready for a crop of fruit. Care must be taken not to let them over fruit. Not more than five fruit should be had from an 11 inch pot, and 18 should be the maximum from a 14 inch. A few fine are better than many ordinary. Syringing and manure-water are indispensable for those requiring fine fruits.

A few trees in pots might be started in a cold

grapery, and when all danger from late frosts and the Curculio are over, might be plunged in the open garden to ripen. This we do not recommend, but only suggest to those who are anxious to experiment with half a dozen trees

We believe that this mode of culture will become not only pleasing but profitable when Nectarines readily command one dollar per doz., and glass-roofed houses can be constructed at such low rates, we cannot see how it can be otherwise. To be sure, the trees will need constant attention, but then, no one should undertake it unless he has a gardener, unless this constant attention becomes a constant source of pleasure. To me it is.

To recapitulate, low roofed glass sheds with ample ventilation, large pots, dwarf bushes, pruned and pinched into suitable shapes, good compost, with plenty of well rotted and liquid manure, plenty of water, light and air.

YELLOWS IN THE PEACH.

BY F. DANA, ROXBURY, MASS.

I have ascertained fully in my own mind, that the Yellows on Peach trees is the effect of a species of the Red Spider, which deposits its eggs in the months of September and October on the under part and around the branches and nearly every little knot or twig close into the main stalk, filling every crevice, and in immense numbers, beyond calculation. They are of a deep red color, and when rubbed, the fingers will be stained quite red. A good glass will magnify their size and appearance to that of a small red currant.

Now is the time to examine the trees, and observe those affected by them and apply the remedy to destroy the eggs. I think, to syringe the parts of the trees affected with strong whale oil soap liquor may prove effectual, providing nature has not coated them over sufficiently to protect them; if so, it can be done effectually after the trees have leaved out, but will take more liquor; the eggs are deposited mostly along the centre of the trees; very seldom any are found near or on the ends of the limbs. They hatch out the first and second weeks in May, and so small are not discernible with the naked eye until nearly full grown; then they commence laying and hatching on the leaves to the last of September, the leaves being literally covered with eggs, and the spiders in immense numbers, sufficient to poison and create the Yellows in any tree. They were very numerous on Pear, Plum and some other trees in our section the last season, causing the leaves to become seared and brown, and stopping the growth and vigor of the trees.

I hope some of our friends, Peach producers, will give their attention to the subject, and after getting

rid of these pests, and keeping their trees clear of borers, they will not be troubled with their trees having the yellows. I will defy them to show any other true cause. I have cured a number of Peach trees after they were thought to be past saving, and brought them back to a good healthy bearing condition. I inclose some of the bark containing the eggs; please examine them with a good glass, one that has a glass to set over them is best. More at some future time if you should wish.

[Not recognizing the species of Spider sent, we handed the specimens to Miss Morris, the well known Entomologist, whose notice of them will be found in another column.—Ed.]

DR. UHLER'S PLAN OF RESTORING HEAT IN HOTBEDS.

BY W. JOHNSON, EASTON, PENNA.

Dr. Uhler's plan of making hotbeds struck me as being very economical, so about the first of March, 1859, I obtained some spent tan and formed a bed sufficiently large for four ordinary sized sash, and about two feet deep. After it stood a few days, I had seven pounds of glue dissolved in about three-fourths of a barrel of water, and poured it on the tan at a temperature of about 180°. I put on the sash and waited, in vain, patiently for the expected heat, for none was perceptible, only what was occasioned by the sun through the glass. Not willing to give it up, about a week after, I got about three barrels of swill from a distillery, and pouring it on the tan, covered with the sash as before. But no fermentation seemed to take place. About a week after I concluded to put on some soil and sow some cabbage, lettuce, etc., thinking that they would grow at that time, (15th of March,) without much bottom heat. Some of the plants came up very weak and sickly, and what did not die off afterwards retained their sickly and stunted appearance. So you may judge of my disappointment, not to say loss, when I tell you that I did not get one dozen of good cabbage plants fit to set out from the whole bed; while cabbage, tomatoes, peppers and egg-plants all grew fine in a bed of stable manure just by the side of the tan.

I hope that you or some of your contributors will throw some light on this subject.

PEACH BORER.

BY JOHN, PETERSBURG, VA.

I have found reason to believe that tobacco-stems, laid at the roots of Peach trees, will prevent the attacks of the Peach borer as well as destroy them. Let some experiments be made during the coming season; it certainly is not hurtful.

THE CRANBERRY.

No. II.

BY CRANBERRY, HANOVER FURNACE, NEW JERSEY.

The two varieties of this berry best known to consumers and consequently most interesting to cultivators are the English Cranberry, (*Oxycoccus palustris*), which is found growing along the margins of streams, and in the *fen* districts of England, and of which little need be said, save that it is a small acrid berry, of a pale red color, about the size of a marrow-fat pea, and though used in sauces, &c., is seldom or never cultivated for the market.

The other is the American Cranberry, (*Oxycoccus macrocarpus*), which is indigenous to our continent, and is found in its wild state in both North and South America, on the sea coast and the margins of the great lakes.

It grows upon a running vine of a shrubby nature, consisting of a prostrate runner with ascending branches, somewhat similar in habit to the Strawberry. This runner roots itself at irregular intervals, and grows to a length of some four or five feet, throwing out a succession of branches or uprights as they are termed by cultivators, to a height of from six to ten inches, upon which the berries are produced. The leaf is oblong, rounded at the ends, green in April, reddish-green in August, and brownish-red in December; remaining upon the stalk for an uncertain period.

The flowers are flesh-colored, growing upon *pedicels*, and are very susceptible to changes of the weather.

As far as my observation extends, the Cranberry seems to require nothing more than *air*, *light* and *water* to produce its fruit, and may be found in its wild state growing equally well upon a damp sand-bank, as upon a bed of rich muck. Moisture it must have, either from springs, or from a running stream; stagnant water it will not live in.

Some attempts have been made at *upland* cultivation, but with very indifferent success; and I have yet to learn that it is being practised to any considerable extent by those who raise for the market. The *wild* berry, although superior in firmness, and by some preferred in flavor, is by no means so prolific as the improved berry; neither is it by



any means so certain of producing an average crop.

The Bell, the Cherry and the Bugle—so named from a slight resemblance in form, are the varieties most known to cultivators; all of which are fine varieties, the two former being the favorites. All of these and many other forms are found growing indiscriminately in the wild bogs.

Any one having a piece of moist, porous land, with the water not more than six inches from the surface, may raise cranberries to a certain extent, but one who desires to make a business of raising them should select a piece of low-lying land with sufficient fall to drain it dry enough to work the soil economically, and when occasion requires, to be able to flood the whole to a depth of from six to ten inches. With such a piece of ground, let him prepare the soil by completely and thoroughly eradicating everything which grows upon it. Some, indeed, take the pains of covering the ground to a depth of four inches with pure sand; but this, on a large scale, would be too expensive.

The soil being prepared, procure from some reliable dealer a supply of vines, which may be set out in this latitude from the middle of March to the 20th of May, inclusive, in rows from three and a half to four feet apart, in order to give space for cultivation, and about eighteen inches apart in the rows; this latter may be regulated, however, by the amount of capital you wish to invest on each acre, for the closer you plant them the sooner the vines will *mat*, or form a covering to the soil, and keep down the weeds and grasses. This I think the best manner of planting, and is practised by those who have been most successful.

Sod planting is simply removing from the wild bogs portions of sod in which the vines are growing, to your ground; but even with the most care you bring with them a host of roots and seeds, which will take years to extirpate, and which the writer has found to be no economy.

The vine grows well from slips, cut from six to eight inches long and planted with a dibble, or what is even better is to plant the middle of the slip, leaving the two ends projecting, thus giving you two vines. It is well to call attention to the fact that some vines are barren; how to distinguish them from their fruitful sisters it is difficult to say, but as a general thing, their leaves are greener, their stems stronger and their whole appearance more thrifty than those of the bearing vines.

The late frosts of spring are very disastrous to this crop, as the vine blossoms in the latter part of May and early in June. It is also subject to the attacks of a *fly*, which about the middle of July deposits its eggs in the berry, the larvæ of which prove very destructive.

Flooding the vines has many advantages; it protects the ground from the severe action of the frost during the winter, and also in the late spring; it checks the growth of weeds and wild grasses; and in July it prevents the attack of the fly, while at the same time it has but a slight retarding effect on the cranberry.

The yield of the first season after planting is of course next to nothing; the second season runners and uprights are formed which bear on the third; after which the crop steadily increases until the ground is entirely covered by the vines, yielding on some favored spots as high as four hundred bushels to the acre; but this, as far as my experience goes, is very far above the average, which I should place at less than half that amount.

The cost of bringing in an acre of cranberries varies so much with the locality, that it would be folly to give an estimate for general application; but would not, I think, vary much from two hundred and fifty dollars.

VINE BORDERS---GRAPES UNDER GLASS.

BY V. V., YONKERS, N. Y.

Mr. Editor: I promised on a former occasion to have something more to say on the formation of Vine Borders and the cultivation of Grapes under glass. But I would more willingly commence to prepare my compost, lay my drainage, fill in, and get all things in working order, than commence to write about it. It is strange that we, practicals, are so generally modest about writing, even on subjects which we feel ourselves competent to speak on and practise. It is so, Mr. Editor, and I think you should encourage the over modest to put aside, partially, their modesty, and let us hear them. A trite saying, "When there is will, there is a way." Now I have the will, and I am determined to find the way. This determination, with the conviction that I have derived much useful information from the pages of the *Monthly*, and, perhaps a little presumption, has forced this long promised article.

It would seem that we have not as yet generally arrived at the perfection of Grape growing. The many different diseases, (if diseases they may be termed,) in the form of mildew, thrip, red spider, etc., which we see and hear so very often complaint of, tell us that there is much yet to be accomplished. Those diseases are all brought on the vine for want of proper attention. Amongst the many "shanking" seems the most prominent. As it is not always within our reach to apply an immediate remedy, its effects are more distinctly marked. As it is generally conceded that "shanking" is produced by destruction of, or disease of the roots, it behooves us then to use all

means within our reach to keep the roots in a perfect state of health; and in order to do so we must commence by laying a proper foundation, in the formation of a perfect border, as far as lay in our power. The first thing necessary is a perfect drainage; the amount of drainage will greatly depend on the situation. If in a dry situation, with a strong sandy or low gravelly bottom, from 6 to 10 inches of stone drainage will do. If on a wet, low or swampy bottom, from 2 to 3 times that amount would be required. I always like to have the space for my border partially excavated, with the border when finished elevated about one foot above the surface, and having a descent from the house. The way I form my drainage is this, I fill the space allotted to the border with rubble stone or brick rubbish, from 6 to 2 feet, according to the situation, as before mentioned; over this I put about 3 or 4 inches of oyster or clam shells, and in immediate connection with the stone. I do not put sod over, as the shells lay close enough to prevent the soil passing through and clodding up the drainage. I then fill in my compost, to the depth of 2 or 3 feet; my compost I prepare the following way, and of the following ingredients: I take from some old rich pasture-field the surface sod, to the depth of 6 or 8 inches; this I lay up in a heap to rot for 3 or 4 months, or longer if possible. After it has laid this length of time, I turn it over, adding one-fourth well-rotted stable or street manure; the latter I prefer. To this I add about 10 bushels of coarse bone-dust to every square rod of border, and about $1\frac{1}{2}$ as much refuse charcoal as bone-dust. These are not exact proportions, slight deviation one way or the other will be of no consequence. All those ingredients, now laying in a pile, are turned over 2 or 3 times, mixing well each turning, (I do not add any of the old soil, nor would I recommend so doing, as it has a tendency to sour the border under different circumstances). The soil thus prepared I fill in, taking care not to tramp on it while filling it in. The soil all in, is now forked over and neatly levelled, but not raked, as the opener you leave the surface of your border the greater influence will the sun and air have on it.

When the season for planting arrives—which may be Spring or Fall—I plant my vines on the inside of the house, about six inches from the front wall, spreading out the roots in such a position that when they commence to grow they will push through the arches to the outside border. Many persons, having their houses and border all ready in the Fall, defer planting till Spring. In my humble opinion, this is a mistaken notion. When planted from September to November, although the wood is then ripe, they make a nice root growth, and having established their roots in the border, they strengthen themselves and

are ready to push forth vigorously as fine weather approaches.

A house for growing grapes may be of any desirable form, though there are structures which warrant a preference. I prefer the old sash and rafter principle, whether single or double pitch, with front sash about 2 feet high, the top sash at an angle of 40° , with a southern aspect for forcing,—a double house I would prefer running North and South, with an angle of 45° . In the old houses the projection of too much wood in the rafter, was rather unsightly; but by the new mode of forming rafters with O. G. facing, a very neat appearance is created. There is a greater command of top ventilation in the old principle, which is a great thing in its favor. Injudicious ventilation is the chief cause of all the attacks of mildew; and any person who carefully ventilates his house, will seldom or never be attacked by this troublesome visitor. At my early stage of gardening I had charge of vineries for seven years, and during that time I never saw a spot of mildew on the vines. I then really thought that mildew would not attack the vine; more experience has shown me the reason why: the great attention I paid to ventilation. I have been little troubled with mildew, spider—red, black or blue—or any other, excepting very slight shanking.

I never give bottom air by the sashes until the vine is ripening its wood, and the grapes have fairly changed color; I then give bottom air cautiously, little at first, gradually increasing as the grapes are ripening, and the wood is perfecting its growth. On very fine and even weather, when at that stage, I give an abundance of top and bottom air. By the paying due attention to ventilation, mildew will never make its appearance.

If mildew should make its appearance, I expel it at once, by taking sulphur, finely powdered, and sowing it broadcast through the border, throwing it half the height of the roof, and in proximity to the vines—the sulphur being light and airy, and thrown at a considerable elevation, is distributed among the leaves, settling on them with great uniformity, if put on by an expert hand, and is not easily detected.

Greater care should now be taken about airing, as it would be of little use to apply a remedy if we fall in to the same excess. One application is sufficient, if the airing is only attended to, there ought not to be a second attack. It is a most necessary thing to keep the leaves in a healthy state, and the surest way to do it is by keeping them free from thrip, mildew, spider, and all and every thing that might cause decay; thus preserved they will faithfully perform the duties allotted them; and when "mother nature," in her own good time, comes to require their homage,

they bow in humble submission, grateful for the care bestowed on them, in the abundance of well-colored and ripened fruit, which they helped to bring to maturity.

In forcing-houses, when the crop of grapes are all ripe and cut, before midsummer, we very frequently see little attention paid them afterwards—thrip, red spider, etc., being allowed full scope. This ought not to be at any stage of the vine's growth, they ought to be considered intruders, and should be expelled. A strong application of tobacco smoke, repeated, will expel the thrip at any time; and a good dose of sulphur, dissolved in water, applied with the syringe, and repeated, is a sure medicine for the red spider.

There is a mode of applying sulphur for mildew, which I have now and then seen mentioned in the *Monthly*, that is pouring water on quick-lime, and strewing sulphur over the lime. This I think is tempting evil too much. Sulphur we know to be a substance easily ignited; quick-lime, a substance possessing a great amount of latent heat, which is set fire by the application of water, ignites the sulphur, and forms sulphurous acid gas, which is sure to destroy every leaf it comes in contact with, and often the plant entire. The amount of water put in the lime may counteract or increase the evil tendency; hence the cause and effect. Some gardeners have gone so far as to unfortunately set the sulphur on fire. The result was most obvious, in one case the destruction of 40 pounds of grapes, estimated; in the other, the loss of a crop the coming year, by the destruction of the vines.

In a former part of this article I objected to giving bottom air by the sashes, at certain periods of the vines growth; this does not imply that bottom air cannot be given without danger. There is a mode of ventilation which I call underground ventilation, which, if adopted, bottom air can be admitted at all stages of the vines growth and in any weather, no matter how inclement. This system I have fully put in practice during the last four years, and has proved most satisfactory. Although not new in itself, still we seldom or never see it adopted in this country. It is as follows:—A chamber built of brick, 6 inches wide and 12 inches deep, is passed along 6 inches from the back wall the entire length of the house; one end of this chamber is up built tight, the other end left open. Branch chambers, 6 or 7 feet apart, and 6 inches deep by 5 inches wide, are built in connection with it, and at right angles to it; these branch chambers pass to within 6 inches of the front wall, and are allowed to raise, to the end of the border, in the form of a twelve inch hollow pier, which admits of 6 inch square opening. These piers answer for the hotwater pipes to rest on. The air entering by the main chamber at the back wall, is distributed into the branch chambers, and has to rise through these hollow piers, and

comes in contact with the hotwater pipe, and is made warm before entering the house—never causing a cold draught, and regulating the temperature of your house with the greatest nicety. A wooden slide attached to the open end of this chamber—which chamber passes to the outside of the house—admits the air, which is opened or shut, as needs be. By this arrangement air can be given even at night, should your house become too warm, without any injury to the vines at the most tender stage of growth.

There is one word I wish to revert back to. *Charcoal*—I am a strenuous advocate of this ingredient in a vine border, and in the cultivation of all plants. This ingredient not being generally recommended, might be questioned by some of the readers of the *Monthly*, who might wish to know its utility, which is obvious:—It keeps the border loose, accelerating the superfluous moisture in passing through, being a powerful nonconductor, it materially assists in regulating the temperature of the border at all seasons; being a great absorber of ammonia, it has always a store of that precious stimulant in reserve, giving it forth as the border becomes warmed and the roots push forth, eager and willing to receive it. These few good qualities I think is sufficient to recommend it; but many others might be brought forward in its favor.

But I have already trespassed too far on your patience and space, Mr. Editor. I shall say nothing at present on pinching (generally called stopping,) or pruning of the vine. I hope that you will prune this article severely.

WEATHERED & CHEREVOY'S BOILER.*

BY THOS. CARTER, RALEIGH, N. C.

Last Fall I purchased one of these boilers for my greenhouse, which is 88 feet long. At first I experienced some difficulty on account of the greenhouse chimney being too low. I soon remedied this by adding 10 feet more to the chimney, since which time I have had no trouble whatever. The boiler is of the smallest capacity: it heats the greenhouse and propagating-house, one or both, at the same time. The flow is through 260 feet of 4 inch pipe, and would heat a much larger quantity, if necessary. I have given this boiler a fair trial during the past winter, the result is quite satisfactory—for no frost got in the house though the temperature was 50 below zero outside. I fill the grate with coal about 9 P. M., and retire to rest, certain of finding a good fire under the boiler, and every plant safe in the greenhouse in the morning.

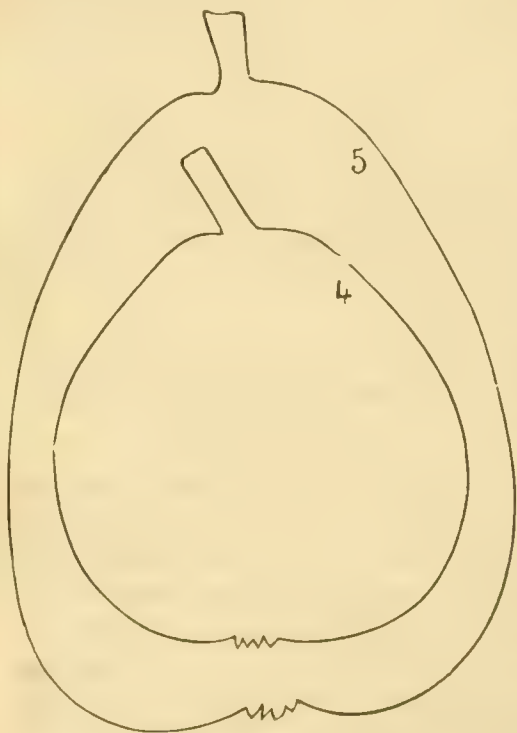
* See page 142 and 107, vol. I.

KNIGHT'S MONARCH PEAR.

BY JOHN SAUL, WASHINGTON, D. C.

Mr. Editor: On looking over my portfolio lately, I found some outlines of what I believe to be the true "Knight's Monarch Pear," made by me in 1850, from specimens grown at Durdham Down Nursery, Bristol, England. I herewith enclose the same, hoping it may tend to clear up the confusion which has so long existed, and still continues, respecting this particular variety. No. 1, 2, 3 and 4, are outlines of specimens, showing one of the smallest, two medium, and one largest. It will be perceived that the general form of the fruit is the same, and below medium size, it is an abundant and regular bearer, the flavor all that has been claimed for it by its raiser, Mr. T. A. Knight, juicy (not buttery) and delicious; in season from January to March.

[We have engraved No. 4, as being about the average of the varying forms.—ED.]



No. 5 is Downing's figure, which I hold to be the spurious variety; he describes it as buttery, which the genuine variety is not,—it is in fact a bag of juice. His outline is so dissimilar to the others that they cannot for a moment be confounded. The question now arises, is the tree from which my specimens were taken the genuine variety? I will give its history, and the reader may arrive at what conclusion he pleases:—

At the time Mr. Knight was engaged in raising and disseminating his fruits, Durdham Down Nursery was in the possession of Messrs. Miller & Sweet, and as now, one of the most extensive and respectable in Britain; Mr. Knight was very intimate with the proprietors, a constant visitor, and from it he received his annual supply of trees, plants, seeds, &c. Plants of the various fruits he raised were sent to this establishment as soon as let out; and here, as elsewhere, the first tree sent of the Monarch, proved to be the spurious variety. Subsequently he sent the tree from which this fruit was gathered, as the genuine variety, and of which there can be little doubt.

A short time prior to the date at which these fruits were gathered, that eminent horticulturist, Thomas Rivers, of Sawbridgeworth, wrote to this firm for grafts of the Monarch, expressing his belief that two varieties were cultivated, and in a confused state. Grafts were sent to him from this tree, which, when he fruits, with others, (indeed I have been long expecting his report upon them,) he who has already done so much for Pomology, will set the matter right.

ON THE PROGRESS OF FRUIT CULTURE IN CANADA.

BY GEO. LESLIE, TORONTO, CANADA WEST.

From the first settlement of Upper Canada, and until about 1850, the culture of fruit seemed to be attended with perfect success. It sometimes happened, in consequence of the absence of native nurseries, that trees were sent us, which, with long exposure and the neglect of dealers, had no vitality left; and in many cases too, farmers paid no notice to the trees after they were set out. But when good, thrifty trees were received, and obtained a moderate share of attention, the results were entirely satisfactory. The smaller fruits, so far as cultivated, produced abundant crops with trifling care.

The English Gooseberry was less liable to mildew than it now is, and a moderate crop could usually be relied on. Raspberries have always been prolific, but here, as elsewhere, require to be planted on soil naturally dry, or that has been drained.

Until quite recently, Strawberries were grown on a very limited scale; now we have most of the varieties usually cultivated, and the demand is respectable. Hovey's Seedling has hitherto been the favorite. Triomphe de Gand, and it is feared Wilson's Albany will not be perfectly hardy in all sections. Peaches have usually produced a fair crop, especially along the shores of the lakes. They are now much less wanted than formerly. Apple trees seemed to thrive in all localities and yielded abundant crops. Pears, as far as introduced, bear handsome fruit of superior flavor.

Since 1850, a change for the worse has gradually developed itself; success where formerly certain, is now very doubtful. All the causes that have brought about this alteration are beyond our knowledge, and some causes that we do know surpass our remedial means. Winter-killing, or frozen sap, has, within the last ten years destroyed thousands of our apple trees; not young trees in the nursery alone, but whole orchards of young and vigorous bearing trees. This has been especially the case in heavy clay soils. The Bark Louse has now spread itself so universally through our orchards, and is increasing with such rapidity that its extermination seems almost hopeless.

The Apple Borer, a grub, larger than the Peach Borer, and white in color, is doing a vast amount of mischief; its operations are carried on between the bark and the wood. To insure its destruction requires more patient labor than many are willing to bestow. The consequence of these drawbacks are that many trees have been killed off, and the fruit produced on others is often wormy at the core and lacks that fair and handsome exterior which is so desirable.

It will readily be supposed that Pears must suffer from Winter-killing; for, in addition, they have to contend against a Summer enemy—the fire blight.

Cherries have suffered much from late Spring frosts; they have also been partially injured by the severity of the Winter. The Duke class prove the most hardy.

Plums are hardy and have only to contend against their ubiquitous foe, the Curculio. The excrescence known as the Black Wart has annihilated the old fashioned Blue Plum. The yellow and light-colored plums are seldom, if ever, affected with this malady.

These remarks apply mainly to that section lying North and West of Lake Ontario. Between the head of that lake and the foot of Lake Erie is the District of Niagara, which has always produced as fine fruit of all kinds as the famous Genesee Valley, New York, of which Rochester is the capitol. In this place was the Residence of the late Hon. Judge Campbell, whose loss Canada may well deplore. He was a skillful and enthusiastic horticulturist, personally setting the example; he exerted unwearied efforts to promote the introduction and culture of fruit of standard excellence.

Grape Vines are being planted to some extent: Isabella, Catawba, Diana and Clinton, in the order named, are the best; what we want in a grape vine is hardiness, earliness, and fruit of good flavor. I am experimenting on some of the most promising of your numerous native sorts, and hope soon to meet with something that will prove a valuable acquisition.

Some of your correspondent's have referred to the frosts of last June. Truly, on the morning of the 4th, the country presented a melancholy spectacle.

Subsequent warm weather and genial showers, restored the field crops. Much fruit was destroyed, and what remained proved very inferior in quality. I noticed a singular fact in Strawberries. The fruit of the earlier sorts was nearly half grown, and the others were in full bloom. If at all, the frost affected them in a very slight degree; we had the satisfaction of gathering a full average crop.

With these drawbacks to Pomological progress, it is not wonderful that our people are somewhat discouraged; but by careful observation on our own parts, and attending to the detailed experience of others, let us hope that better times await us. Diligence and perseverance may enable us ultimately to triumph over the difficulties with which we are beset. At the present time, R. I. Greenings, Spitzenbergs, Baldwins, &c., sell freely at \$4 per barrel.

[We should be very glad if friends in other sections of the country would also communicate their experience. By the collection of as many such facts as possible, a remedy for the troubles of fruit growers may result.—ED.]

CRYSTAL PALACE AT SYDENHAM.

BY CHAS. H. MILLER.

The Crystal Palace at Sydenham, one of the greatest achievements of modern times, is situated on the summit of a hill, about nine miles from London. In point of beauty and magnificent proportions the present building far exceeds the original in Hyde Park, which had not sufficient elevation compared with its great length, consequently exhibiting a long flat appearance, anything but imposing. In the present Palace the nave is forty feet higher than the old one; three transepts are also introduced, whereas the building in Hyde Park had but one, the extreme height of which was 104 feet; the middle transept, in the present instance, being 168 feet, or 64 feet higher. The whole length of the building is 2756 feet, exclusive of 720 feet, the length of the colonnade leading from the railway to the main building; in size, the present structure exceeds the original in Hyde Park, by nearly one half.

Arrived at this magnificent palace of iron and glass, by the Company's Railway from London Bridge, we ascend a large flight of steps on to the corridor or colonnade, so called, which is planted on each side with choice exotic plants:—Lantanas, Bignonias, Fuchsias, Passion Flowers; and which assist in forming a delightful avenue. Proceeding along the colonnade, we come to the south end of the main building, up two more flights of steps on to the main floor. I will not attempt to give an accurate description of the interior of the Palace itself; my object at present being merely to note some of its leading features.

The south end and south transept contain a well selected collection of plants, such as Rhododendrons, Camellias and Azaleas; splendid large specimens, some of them having been purchased from the collection of Mrs. Lawrence, of Ealing Park, a well known patron of Horticulture, who for many years successfully competed at the Chiswick exhibitions.

Along the entire length of the main avenue are arranged hanging baskets filled with various flowering plants; these have a very pretty effect. Splendid Orange trees, (in large tubs) some of them of magnificent proportions and loaded with fruit and flowers, are arranged on each side, forming a delightful promenade, and emitting a fragrance throughout the whole building quite refreshing, added to which are birds of handsome plumage, hopping about from tree to tree, altogether forming a most enchanting scene.

Starting from the south end of the nave or main avenue, one is enabled to place himself, to some extent, geographically in respect to the objects before him, in relation as he would be to a map of the world. Here the North lies in front, the East to the right, and the West to the left; the Old World on one side, the New on the other.

The trees, plants, animals and human occupants of the earth are grouped together, illustrating Botany, Zoology, and Ethnology; consequently the arrangements are geographically instructive.

Taking the left hand path we come to a group of trees and animals from Central and South America; a large specimen of American aloe is a prominent object; Brugmansias, Magnolias, and Fuchsias, some of them are magnificent plants, also fine plant of *Auracaria imbricata* and *Braziliensis*; associated with this botanical collection is a group of South American Indians—and a savage looking set they really are—forming a striking contrast to a fine collection of beautiful birds from the same quarter.

Advancing north, we come to a collection of North American plants, fine specimens of Azaleas, Rhododendrons, Andromedas, &c.; conspicuous in this division is a group of North American red Indians engaged in a war dance; alongside is a splendid large glass case containing fresh water or river animals, such as the Snapping Turtle and Bull Frog, at which many a Frenchman casts a longing eye.

Turning to the right, you come to a magnificent crystal fountain of beautiful design, in the water which surrounds it float the gigantic *Victoria Regia*, *Nymphaeas*, *Nelumbiums*, *Caladiums* and other tropical plants, forming a scenery perfectly unique.

Passing along the nave and turning to the right towards the garden front, we come to a fine piece of artificial rock work, covered with tropical plants, associated with it is a fountain of toilet vinegar, at which you have only to present your handkerchief,

and it will be copiously besprinkled by the fair attendant. Some young gentleman who chanced to have a headache, bent the knee and underwent a baptismal performance that even an American minister would delight in. A little distance to the right is a fine collection of Camellias arranged in beds of various shapes; crouching and squatting among the various groups of plants are adult specimens of Javanese or Opium eaters; their mean, emaciated appearance give one an adequate idea of the extent of such pernicious habits.

Advancing north along the centre nave, we come to the Egyptian Courts containing many curious and interesting objects:—Winged Bulls, Sphynx, and other heathen monstrosities brought from the ruins of Nineveh by Mr. Layard; mixed with those are fine specimens of Date and Wax Palms, Cocoas, *Plumosa* nearly forty feet high; also two curious plants much like blocks of wood, called Elephant's foot, these two specimens are the largest in Europe, and said to be three thousand years old. Continuing onwards, we come to the north transept, situated at the west end are the Egyptian colossal figures from the temple of Rameses the Great, in Nubia; notwithstanding their enormous size, they exhibit a fulness and rotundity of appearance quite juvenile, forcibly reminding one of Pickwick's fat boy. Although seated, their height is 64 feet—pretty tall boys them.

We are now at the north end of the main avenue, and before us is a fine collection of orchidæous plants—Ferns, Palms and other tropicals; another basin for aquatics corresponding with the one at the south end.

The heating apparatus of this vast establishment is on a scale of great magnitude, a tunnel connecting with the railway runs along the entire length of the building; this tunnel is twenty-four feet wide; on one side are the boilers and coal houses. This railway is also used for the transit of machinery, implements, &c., the machine department being situated underneath the main floor. Twenty-six boilers and fifty miles of 9 and 5 inch pipes are required to heat this mammoth building; the water circulating through this vast quantity of piping travels the distance of nearly two miles.

ORCHARD HOUSES.—To obviate one of the objections to planting out fruit trees permanently in orchard houses, namely, want of fresh soil and inconvenience of root pruning, W. S. recommends in the *Horticulturist*, that brick walls with pigeon holes, should be partially built round each tree. The soil outside of each could then be removed and replenished at pleasure.

CLIVIA NOBILIS.

BY A. F., PITTSBURG, PA.

[Translated for the Gardener's Monthly.]

The Cape of Good Hope is the home of a very large number of charming bulbous growths, especially of the species *amaryllidaceæ*; and one of the most prominent of them is the *Clivia nobilis*, which abounds in the neighborhood of Fish River. This plant was called *Imatophyllum Aitonii* by Hooker, and received the name *Clivia nobilis* from Lindley. It is closely allied to *Cyrtanthus*, from which it differs only in its fleshy (seed) capsule and seeds. In reality it is not a bulb, but the stem-clasping leaves form below the surface a firm mass, which closely resembles one. The leaves are, in their whole length, of equal breadth, up to the size of an inch, according to the vigor of the specimen, obtuse, smooth, of a decided dark green color, and arranged on two sides. The flower-stem attains a height from a foot to one and a half, and bears a very beautiful umbel with pendant flowers. Each flower is an inch and a half long, of a red color approaching scarlet, with yellowish green border, and bell shaped, with expanded sides from which the stamina project. The roots are firm and appear in spherical rings at the base of the plant, whose fleshy bodies extend into the mass as the thickness is increased by decaying external leaves. Every year the new roots, in a circular form, appear in the place of the decayed leaves, and sometimes they break through the base of the still existing leaves, where they have at first the appearance of air plant roots, which soon draw downwards and form true roots. The young plants appear in the same spots and in the same manner, either alongside, externally, or between the outermost leaves, and can be removed for propagation when they have become independent roots.

The natural locality of the plants at the Cape of Good Hope has the peculiarity, that the soil during the dry season becomes glowing hot, and the vegetation is arrested by the heat and consequent dryness. This is the period of rest for the native plants, which is actually only externally a resting time—for in the internal portion of the bulbs the life is more concentrated: the substance is refreshed and condensed, and thereby the foundation is laid for the production of the flower. When the rainy season comes, the bulbs obtain new fluid nutriment, the soluble portions of accumulated material of the former vegetation become dissolved, the flowers unfold themselves followed by partial fructification, fresh leaves appear, the old die off, and so the growth continues till the arrival of the dry season again.

This is the ordinary process of that region, which we cannot completely imitate by skillful culture in this country, and from perfectly natural causes; for

our climatic conditions are exactly the reverse: during our summer is the time for vegetable activity, whilst it is the time of rest for such plants at the Cape; and in winter our time of rest is the period there for rain and luxuriant growth. Carelessly considered, it might be supposed it would not be difficult for us also to expose such plants in summer to a high and dry heat, thus to imitate the antarctic time of rest, and that of the winter, aided by appropriate heating and moisture to bring the plants to bloom; but in truth, the affair is more difficult than it appears: for while we in winter, by the best devised arrangements, produce a temperature of air and moisture of soil precisely that of the climate at the Cape, it is impossible for us to create the most needed agent for growth of plants, namely, *light*. Without the requisite light all plants do not attain the necessary perfection, and it is especially the case with those which are accustomed to a more intense light than our latitude affords. Every one, who has in any manner tried during winter to force into bloom plants which are hardy or indigenous, knows very well how useless are all his precautions if the sun does not shine. Even when flower buds are produced in abundance, no roses or syringas will open without the sun. Owing to this, we let plants like *Clivia* grow in summer and rest in winter.

[TO BE CONTINUED.]

EXTREME COLD AT WASHINGTON.—The thermometer at Grafton Cottage this morning, 3d of February, 1860, was 10° below zero, Fahrenheit, the lowest temperature I have ever noticed in this climate, in the same position of the thermometer. In the winter of 1855-'6 the thermometer at Pierce's nursery was 14° below zero at his house on the hill, and 22° below zero in the valley below, and not quite 10° below at Grafton Cottage. This winter will prove very destructive to vegetation here, not so much from extreme severity as from the severity of its extremes.

The flower buds of *Pawlonia imperialis* are entirely destroyed, and whenever this happens here, great injury is done to fruit trees and shrubbery generally.—*C. G. Page, in Washington National Intelligencer.*

[This is very good for lat. 39°. The "Laplanders" of the South must take to the middle climate of 40° or 41° in winter.—ED.]

WILLOW HEDGES are becoming very popular at the West on the prairies. They are planted in two rows, the plants in each row alternate with each opposite, and one foot from one another in the row; as they grow up they make an impenetrable fence by their trunks alone.

The Gardener's Monthly.

PHILADELPHIA, MAY 1, 1860.

✎ All Communications for the Editor should be addressed, "THOMAS MEEHAN, GERMANTOWN, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 496 Philadelphia."

NOTICE TO CORRESPONDENTS.

In consequence of the heavy increase in the circulation of the *Monthly*, and the consequent necessity of going to press earlier in order to issue the Magazine punctually to all our subscribers by the 1st of each month, it is desirable that communications requiring immediate attention, should reach the Editor before the 10th of each month.

SHADING THE BARK OF TREES.

We love to reflect on horticultural progress. It is one of our best hobbies, and affords us many a delightful ride. To think we know so much more than our fathers, is perhaps but vanity; and after all, the record shows that they knew more than we are apt to give them credit for. But it is not what a few of them knew, it is what was generally known. Probably not a notion that now excites our admiration, but what was well known to one or another of them. Cunningham, of Edinburgh, knew, perhaps, more of the secrets of propagation than anyone before him; but what signified all this to us? Locked in between four brick walls where no one could see his operations, and with the secrets locked in the brain where they originated, he died, and his knowledge died with him.

We often think that our progress does not so much relate to facts as to scientific admissions concerning them. It is the new relations of the facts introduced by science that seems so novel to us.

Years ago, we knew an old fellow who used to make upright incisions in the bark of his Cherry trees, all about their trunks. It was a great source of merriment to us young chips of the horticultural block. Such a practice was not laid down in the books, and, of course, it was ridiculous. However, some few of us, under the foolish impression that editors knew everything, wrote to a leading journal for its opinion, and anxiously devoured the inquiry column for our answer; and certes, there it was, plain as we said, "until you see nature slit up the bark of trees, believe the practice of your friend all nonsense."

Alas, poor "Nature!" how often are you set up as a scarecrow to frighten us poor birds who will go pilfering the grain of pooh-pooh'd ideas. It is reason that we should rather follow; and if experience teach us that any course is beneficial, what boots it

to us whether nature gave us the first pattern or had it suggested to us by common sense? If we have a pattern given us to go by, and that pattern should be cracked, are all our productions to be cracked in order to be perfect? And yet we are perpetually told to follow nature as implicitly as a rule of faith.

Cowper says that "God made the country, and man made the town;" and in like manner we may say, man made the long-legged, bare-poled, sun-scorched and hide-bound cherry tree, while nature made the noble, bushy-headed and shady-trunked specimen; the branches of which, sweeping the ground beneath, bids defiance to the sun's bark-binding attacks. At any rate, (and this is the most important point,) our old foggy's Cherry trees, with their bodies marked

"Like a bonny son of Mars, with many slits and scars."

in health and vigor and beauty of growth far exceeded those of his neighbours. And we have seen it since tried without prejudice, and have invariably found that slitting the bark of hide-bound trees is a great and decided advantage.

Some few years ago, when in the neighborhood of Darby, Pa., we saw an apple orchard with trees having most remarkably clean, smooth and healthy-looking stems. Inquiring of the son of the proprietor, we were told that his father divested the trunks of his trees of their bark every Spring. "What," said we, "the bark itself? You mean the loose scales on the outside." "No," he replied, "he tears it off in strips like willow peel." Our science was horror struck. The physiology of our school could stand no such treason to its constitution. Conceiving it was an attempt to "sell" us, the subject soon passed from our mind.

Two years ago, a respectable farmer "amongst the Dutch," in Bucks county, Pa., told us that every year, in June, he regularly tore off the bark of his apple trees, with the happiest results. Had it not been for our previous experience, we should have classed it with the "Moon's signs," for which our brethren in that region are so famous. But, last year, as there was some talk about the decortication of Elms successfully in France, we thought we would try for ourselves if anything could come from such a barbarous experiment. So on the last day of June, we took a ten year old, well-trimmed-up cherry tree, and from about three feet above the ground tore off the bark into the wood as far up as we could reach. Within a week afterwards, innumerable corrugations appeared on the surface; apparently exudations from the medullary rays of the wood, which soon met each other, and in about three weeks a new surface of bark, and new wood beneath it, covered all the North side of the tree; on the South side they dried up before meeting, and all the branches on that side

subsequently died; but our partial success, besides teaching us some new ideas about the rise and fall of the sap, to which we may refer when some more experiments, now in progress, shall have been made, taught us that there was truth in the common report. We have since met a gentleman of the highest character, who assures us that he strips Maple trees between the 20th and 25th of June, entirely of their bark, and a new one forms immediately, to the increased health and vigor of the tree.

These facts we have now proved to be undeniable; but we are not going to recommend that trees should be scored and scalloped like a whittled rustic seat in a "Down Eastern State," or shorn of their bark like a May sheep of its fleece; but we do recommend that such unsightly treatment should be rendered unnecessary, by taking every possible care to prevent the induration of the bark, which is so fatal to the healthy development of trees.

For orchard trees, the heads should be made as low as possible in order to afford shade to the trunk—and when, as we hope some day to see, the barbarous practice of cropping orchards shall be amongst the things only of history, there will be no objection to their heads being very low. At present it is a well ascertained fact that low branching Peach trees, especially in the Southern and warmer States, are considerably the healthiest and enjoy the longest lives.

With weeping trees and others that must be grafted high up in order that a natural "flow of tears" at the barbarity may result, the object may be attained by allowing a growth of young shoots about the trunk, which by judicious pinching and pruning at the right time, as explained in a former number, may always be kept in check, so far as robbing the trunk of nourishment is concerned.

Washing the trunks of choice trees with weak ley occasionally, so as to keep the old bark softened, that it may swell easily, and give place to the new, will also be beneficial.

Altogether, the subject is one calculated to effect vast improvements over the practices of our fathers; and though we have to dismiss it for the present, the interest we feel in its importance will induce us to return to it some time hereafter.

INTERIOR OF A HOTHOUSE.

[See Frontispice.]

We furnish our readers with a sketch of the interior of a hothouse in the vicinity of this city, which we think a decided improvement on the stiff and formal arrangement which generally prevails. It will, at any rate, furnish some hints which may be improved on.

The drawing requires but little explanation. The centre stage or grotto is formed by building up two

side walls of large rough stones, (some of which should be allowed to project on the inside of the grotto to prevent too formal an appearance,) and by turning an arch from one wall to the other. The stone work should be laid in hydraulic cement, (which costs but little more than lime,) on account of the excessive humidity of the house, which would destroy lime mortar. After the side walls are built and the arch turned, select irregular shaped, and if possible, moss covered stones of large size, and pile them up *edgewise* against the outside of the walls, so as to leave as many crevices and interstices as possible, for pots and plants.

The side or front tables are formed partly of wood and partly of stone. The part nearest the glass being of wood, constructed in the usual way, with large stones piled along the front or side next the path. Two rows of pots are arranged on the wooden table, the fronts being concealed by long strips of bark. In addition to the plants in pots, the interstices between the stones can be filled with leaf mould and planted with ferns, lycopodiums, rock plants, etc. On each side of the house are two trunks of trees with the branches on, covered with creeping plants. The whole interior of the house is painted a light shade of green, which corresponds well with the green leaves of the Passifloras, Ipomeas, and other twining plants trained up the rafters. The collection of ornamental foliage plants in the house is extensive, and well adapted to a house of this kind. The basin of water in the grotto is supplied by a pipe built in the arch, and is allowed to trickle continually, thereby adding much to the natural appearance of the scene. Orchids are suspended from the roof in rustic baskets and on blocks of wood, and rustic vases containing collections of native and foreign mosses are placed in the corners. The paths are paved with rough flag stones which correspond well with the rock work.

FRUIT GROWERS' SOCIETY OF EAST-ERN PENNSYLVANIA.

The Committee for the County of Philadelphia, respectfully call the attention of Fruit Growers, (both professional and amateur,) to the existence of this society; the object of which is to foster and encourage the introduction of new and desirable varieties of fruits; to give a correct and impartial description of them, and to aid in their dissemination.

In order to carry out these objects, they respectfully urge on all who take an interest in this subject, the importance of carefully conducted experiments in hybridizing our native with foreign sorts and in the production of seedlings from such hybrids as well as from the seeds of our well known sorts both native and foreign.

Besides the production of new kinds, there are doubtless many really desirable fruits already in existence which deserve to be better known. All such will be accurately described in the proceedings of this Society, if well ripened specimens are forwarded to the Committee at the proper season; and they invite all lovers of fine fruits to aid them in carrying out the objects of this Society by imparting such information as they may possess in reference to this object; such as peculiar modes of culture, the application of special manures, pruning, diseases, and the destruction of injurious insects, and the ripening and preservation of fruits. If these suggestions are carried out, we may confidently anticipate the happiest results from the operations of this society, not only by the introduction of new and desirable fruits, but in preventing the dissemination of worthless sorts.

J. E. MITCHELL, *Chairman*,
No. 310 York Avenue, Phila.

SEQUOIA.

It is due to our correspondent, "L." that we inform the readers of his article—"Sequoia vs Washingtonia," that he does not assume, as implied in our note, to have been the first to suggest that the name Sequoia was derived from See-quah-yah of Cherokee fame. But he does claim that he has exhausted the authorities accessible in the libraries of Philadelphia and made assiduous inquiry among the leading botanists of the city, and by the aid of a much interested friend, has made similar research in New York, and failed to detect any clue to any other origin.

He who described the genus and applied the name, has not informed us whence he derived it, and in the absence of any positive knowledge on the subject, the strong presumptive evidence drawn from the extensive philological attainments of the late distinguished Endlicher, warrant us in believing that the suspicion first awakened in the columns of the *Country Gentleman*, a few years since is correct. Moreover, as the story has not appeared in any horticultural journal, where it properly belongs, we believe it has been found by the thousands of readers of the *Gardener's Monthly*, as fresh and interesting as if for the first time spread before the public.

AMERICAN POMOLOGICAL SOCIETY.

We understand that the enterprising President of this society, Hon. Marshall P. Wilder has succeeded in securing the immense building of the Academy of Music for the meeting of the Pomological Convention on the 11th of September next, in Philadelphia.

INVERTING FENCE POSTS.—Mr. Howe, in the *Genesee Farmer*, gives some interesting experiments proving that posts last longest when set upside down.

Questions and Answers.

HEMLOCK HEDGE.—A friend of mine, and a subscriber to the *Monthly*, has a Hemlock Hedge, set last Spring, of two or three hundred plants taken from the woods, (and they all lived except two or three.) Now, they made some growth last year, and look rather awkward, being all heights, from 12 inches to 3 feet.) Now, had he better cut them back this Spring? or let them go till another Spring before cutting them? Please answer in the *Monthly*, and oblige.—J. H. H., Amesburg, Mass.

[Cut them down with the shears, first of May, or about, to 18 inches from the ground. As a boy leaps farther by first going a few feet backwards, these will grow faster by being shortened, and become bushy.]

WINTER GROWTH OF ROOTS—*Thomas Meehan, Esq.*
Dear Sir:—In discussion, the other day, with one of our best gardeners, on the subject of trees, out-door plants, &c., he contended that the roots of trees and plants grew in winter. I am well aware that while the ground is not frozen that they absorb moisture from the soil, but unless it can be shown that the sap ascends and descends in the winter as it does in the summer, under the above circumstances, it could not take place, but believing that the sap or moisture that the roots absorb, evaporates through the pores of the bark and does not return to the root, consequently they cannot grow far. I believe that the elongation of roots takes place when the sap returns to the roots. It would afford me great pleasure to have this question settled; it is not the first time that I have heard it, and would like to see it disposed of in your practical journal.

INVESTIGATOR.

[Roots do grow through the winter, but very little, especially with deciduous trees. Roots of evergreens grow more; they commence active root growth in February; altogether, leaf growth does not commence till April or May. The idea of evaporation is correct. The little that the roots absorb in winter, or gain by root growth, is often fully evaporated by cold winds and frosts, from the stem and branches. Frequently more is evaporated than is absorbed, and many trees otherwise hardy, die in winter from this cause.

As to the theory of the rise and fall of the sap, so fully believed in by most physiologists of the past day, it is now an almost exploded one. The probability is that nothing of the kind occurs, and that the phenomena that have hitherto been supposed plainly to indicate this, will be explained by other theories. Cuttings of grape eyes have, often, roots two inches long before the buds have little more than burst.]

ORCHID CULTURE.—A Correspondent in New York, "Claude Melnotte," sends us a criticism, on the article on Orchid growing that appeared in our last, taking the ground that in condemning one system, the writer had not given the readers of the *Monthly* any better one; and the *Farmer and Gardener*, alluding, we suppose to the same article, makes in effect the same objection. It is but justice to our correspondent to say that at the time he sent us his communication he intimated that the piece was but preliminary, and we have since received handsome illustrations to go with his article, which are now in the engraver's hands.

GRAPES AND STRAWBERRIES.—*Fayetteville, April 3d, 1860.*—Mr. Editor:—Please accept my thanks for information received through the March number of the *Gardener's Monthly*, on propagating grapes from eyes. I notice that some of them in my hotbed are growing finely, while others in the same bed, after growing about an inch, turn yellow and dry up. Can you tell me the cause? I have kept a uniform heat of about 70°. Have I not given them sufficient air, or is it probable a part of the eyes were not well ripened? The weak layers are doing finely in the same bed. (1) I feel considerable interest in a new Strawberry noticed in the April number of the *Monthly*; cannot you figure it in some future number—the Wizard of the North. (2) Can you give me any information on the Pauline grape? How does it compare with the Logan for earliness? What is the size and flavor? (3)

SUBSCRIBER.

[(1) The top shoots grow faster than the roots, and the eye dies of exhaustion; remedy:—pinch out the young point of the shoot as soon as a leaf or two is fairly visible.

(2) The plate of the Wizard of the North Strawberry we saw, occupied nearly two feet square—rather large for our columns; besides, we seldom figure anything, unless likely to suit our climate or culture, which foreign strawberries often do not.

(3) We have not fruited the Pauline yet ourselves, but it is highly spoken of in the South.]

MILDEW.—Loudon supposed this to be caused by the soil being colder than the atmosphere in which the plants grow. This may be one of many circumstances tending to cause mildew, but we doubt whether it is the cause itself.

We would call especial attention to the Fruit Growers' Society of Eastern Pa., noticed on page 147.

ROSES.—J. J. F., *Henderson, Ky*—Please send me, or publish a list of the best Works, with date of latest editions, on the Rose.

[Buist, or Parsons on the Rose, are both excellent.]

CANNAS, BEDDING PLANTS, &c.—J. W. McL., *Poughkeepsie, N. Y.*—Dear Sir: If you will answer the following, under the head of Questions and Answers, in the next *Monthly*, you will oblige a constant reader of the *Gardener's Monthly*.

1. Will Canna Indica bloom the first year from seed? Can the roots be kept same as the Dahlia through the winter? 2. Is the Commelina good for bedding out? How far apart should the plants be put in the bed? 3. Will the *Whitlavia grandiflora* do for bedding, and how far apart should the plants be set? How long will it bloom? 4. Please name a list of plants that would do for a vase standing in the sun.

[(1) Yes, if you sow them early and grow in a warm rich soil in your garden.

2. We do not value it for bedding, though it is pretty in its way.

3. It will do well in your latitude, and please you as a blue flower; set about six inches apart. It will bloom till September.

4. Scarlet Geraniums, Petunias, Mesembryanthemums, Portulacca and Plumbago Larpentæ.]

WATERING WITH WELL WATER.—B.—Never do this when you can use it of the temperature of the plant house. To apply fire to heat your house to 70° and then cold water to reduce it to 50° is absurd.

The Frenchman's recipe for making Punch, "a little brandy to make it strong, a little water to make it weak, a little lemon to make it sour, and a little sugar to make it sweet," may do in that peculiar line of animal treatment; but such extremes are fatal to good plant management.

BASKET PLANTS, LAVENDER, &c.—A. J. B., *Camden, N. J.*—Will you please give a list of the twelve best kinds of trailing plants for baskets; also the best manner of cultivation. I wish to raise them from seed to be ready for Fall. (1.)

I also have a large bed of Lavender growing very thickly. Would it be advisable to transplant? or, would spading some manure around them increase their fertility? (2.)

[(1.) Kenilworth Ivy, English Ivy, Creeping Saxifrage, Senecio scandens, Lysimachia nummularia, Blue Lobelia, Tradescantia zebrina, Kennedyia Marryattæ, Tropæolum splendidissima, Lycopodium denticulatum, L. Cæsium, Crassula lactea. There is no difficulty about their cultivation.

(2.) It would be as well to take up, tear to pieces, and replant thinly as in setting out box edging; and next season set out the plants to their desired distances.]

MANURING FRUIT TREES.—*J. W. M., Lebanon, Pa.*—I intend setting out an acre with mixed fruit this Spring—Standard and Dwarf Pears, Apples, Cherries, Plums, etc., and am offered at a reasonable rate the sweepings of a smith's shop, consisting of the parings of horses' feet, droppings, etc. Will this make a good manure to mix with the soil at the time of planting? To which would the application be most beneficial, and about what quantity should be applied?

The soil is at present in good condition and produces fair crops of wheat, corn and grass—composed of clay and sand, two of former and one of latter, and no want of lime. Answers to the above in the *May Monthly*, will much oblige a regular reader.

[Such manure is excellent for encouraging growth, and will do for young trees. In the vegetable garden we have found it excellent. We think wood ashes the best of all manure for most kinds of fruit trees, when fruitfulness is desired. We like spreading manure on the surface, and raking or harrowing-in.]

SEEDLING PANSIES.—From *Daniel Barker, Hartford, Conn.*—Equal to the finest prize flowers, and very beautiful.

We have also on hand an article on Tritomas from his pen for our next issue.

Mr. B. is about to visit Europe, to collect all the novelties that are likely to do well in this country, which, from his knowledge of our climate, and of what constitutes a good flower with us, he is likely to do very successfully. We wish him every success.

MCDUGALL'S DISINFECTANT.—A Correspondent informs us that this is a patent mixture of disinfecting elements, compounded by an English Chemist. It is principally sulphite of Magnesia and Lime, and Carbonate of Lime; and we should judge from the statements before us, that as a disinfectant, it is a cheap article, and may be valuable as a manure.

HYBRIDIZING GRAPES.—We have on hand a very interesting article from our correspondent, Mr. Bright, from Notes made during his late European tour, explaining how the flood of excellent new foreign grapes have been produced, that have recently made their appearance in European collections, which will appear in our next.

PLANTING GRAPE CUTTINGS.—*R., Quincy, Ill.*, inquires why these may not be as well put where they are to grow, as transplant rooted vines? They will do as well, but it is not the cheapest way. It saves time and money to set out good rooted plants. Where land and labor is no object, vineyards are often planted with cuttings.

SEEDLING AZALEA.—From *Jno. Feast & Son*, named "Baltimore Beauty, is one of the handsomest striped ones we have seen; the crimson is very bright. In this respect it is far superior to the noted "Beauty of Europe." It is not up to the standard in rotundity of outline, but will be very popular.

ROSE "DR. KANE," from *Mr. Pentland, Baltimore, Md.*—A few flowers of exquisite form and delightful fragrance. In color it seems to be intermediate between Solfaterre and Lamarque. But at this season of the year, from forced specimens, it is impossible to speak of comparative merit.

REBECCA GRAPE.—A Correspondent near West Chester, says:—

"We have instances during this peculiarly changeable, hard winter, of New Rochelle, Dorchester and Common Blackberry being killed to the ground, and Rebecca grape, in some places, uninjured."

PINE SEED.—*E. T., Winchester, Ohio.*—Sow thinly under a garden frame, raised a few inches at the four corners to admit a draught of air, and whitewash the glass before hot weather sets in—leaving the glass on.

CHERRY GRAFTS.—*R.*—Mazzard cherries do not take kindly on the Wild (*Cerasus serotina*), nor do cherries on plums. We do not know that the latter take at all.

APPLE.—*D. W. G., Harrisburg, Pa.*—Your specimen seems to be Tewksbury Winter Blush—larger than usual. It is one of the best keeping apples we have.

GRAPE CULTURE.—*J. Davenport, Stamford, Conn.*—Mr. Bright's work, noticed in another column, will give you exactly the required information.

RAVAGES OF THE GOPHER.—*L. H., Lee Co., Iowa.*—Can any of our readers give us an effectual preventive of the ravages of this animal?

Books, Catalogues, &c.

THE ILLUSTRATED PEAR CULTURIST.—In our notice of this beautiful and useful volume, in our last, we spoke of it as a new work. In referring to it again after our notice went to press, we find it dated 1857.

This does not, of course, render it any the less valuable; but it is necessary in order to explain a remark we made under the impression that it was just from the press.

BRIGHT ON GRAPE CULTURE. Published in Philadelphia by the Author, and in New York by C. M. Saxton, Barker & Co.

A fresh, original work, is a great treat in these days of book making; and, had Mr. Bright effected nothing more by his efforts than this, we should have enjoyed it on that account alone. But the work is not by any means to be valued merely because it is not what is popularly and aptly known as "rehash;" it abounds with new and original ideas, for which Mr. Bright's contributions to the *Gardener's Monthly* have already become so noted.

The author of this little work has had one advantage as a "book maker," which all authors of practical works have not invariably possessed. He has been long known as a practical grape grower of the highest eminence, and his work has followed his deeds. The "sayings and doings" of many distinguished individuals have flooded the press. Mr. Bright has reversed the general order of such matters, as he has reversed many time-honored practices related to the subject of which he treats. The work is emphatically the "doings and sayings" of Bright on grape culture, and as such we welcome it. The work, though confined to 120 small octavo pages, covers the whole subject of vine culture—native and foreign—in pots, borders, vineyards and city yards; planting, training, pruning—as much, in fact, as is usually given in works double the size; and this conciseness of language in these railroad times is not one of the least of its merits.

There are some things in the work with which we would not agree. The idea generally prevalent amongst the most scientific portion of agriculturists, that the most perfect system of manuring is that which applies to the soil those elements which chemical analysis shows the plant growing in that soil to contain, Mr. Bright also leans to. We honestly confess that we cannot controvert this belief, and yet our faith has been shaken occasionally by some cross-grained observations. There seems to be something in that mysterious and incomprehensible principle, which for want of a better name we call *vital force*, which acts in the premises, and sets the best rules of science so far as yet known, at defiance, and produces results other than as they ought to do according as they are laid down "in the books."

But all this is natural. Far in advance as we regard the views held forth in this little work over present general practice, the future will no doubt produce still more perfect ideas; and probably Mr. Bright himself, with his naturally observant genius, will be one of the first to lay hold of and popularize them.

We cordially recommend the book to all any way interested in grape culture.

THE ORCHARD HOUSE. By Thomas Rivers, with an appendix, containing additional directions, by William Saunders. C. M. Saxton, Barker & Co., New York.

This little work of Mr. Rivers is already familiar to many American readers, through having been reprinted last year in the *Horticulturist*. In the present pamphlet form it will come acceptable to many, and the enterprising publishers have conferred a favor on the horticultural community in preparing it for them.

Mr. Rivers is an enthusiast in the subject, and he has given an impetus and popularity to it that, considering how slow communities are to adopt new ideas, is really surprising. As the past testifies, the *Monthly* has never been with those who believe the day for cultivating out-door fruits is gone by, and that we must look to the orchard house as a *dernier resort* for an occasional mouthful of fruit; but as a pleasant pastime for the amateur of leisure, a delicious luxury for the affluent, or even as a source of profit when the principles of management are thoroughly understood, and entered into with a thorough business spirit, we believe it will become one of the most popular branches of the gardening art.

THE GERMANTOWN TELEGRAPH.—This well known and widely circulated family and agricultural journal commences a new year about the present time. The horticultural articles are often of the highest excellence, and we hope it will continue to be like good wine, which they say improves with age.

ORIGIN OF SPECIES. By Dr. Charles Darwin.

As botanical knowledge progresses, the difficulties of classification increase. When Linnæus delineated his system, for a while it seemed perfect. Compared with the present list of vegetable forms, the number of plants then known was a mere trifle; and after the light of genius had once dawned on the mind of the great botanist, it was a comparatively easy task to arrange them into classes that seemed very well defined and perfectly satisfactory. But long before this great father of modern botany had passed away from us, difficulties gathered with the accumulation of new discovered species; variations that were deemed but exceptions became the rule, and he himself gave the first blow towards the destruction of the magnificent arrangement his brilliant genius had created, and which destruction the natural system of Jussieu afterwards so successfully completed. Jussieu divided the whole vegetable kingdom into one hundred orders or classes, and the classification seemed again perfect; but new discoveries soon showed its imperfections—natural though it was supposed to be; and after being

patched and tinkered by various clever hands, was entirely revolutionized by Endlicher and Lindley, the latter of whom came ultimately to the conclusion that nothing short of over three hundred orders would embrace the vegetable kingdom; and since his efforts scarcely any score of botanists can be found to agree as to the proper limits of any of these so-called orders, and clearly to define what they mean by any one of them.

If they are not agreed as to what constitutes an order, so neither are they any more successful with genera or species. What are so considered by one, are rejected as such by others; and it has been found impossible to define what any one means by a species. The only agreement has been in a quiet assumption, —a sort of dreaming, indistinct idea, that they mean by a species something that was originally created independently separate and distinct from any other kind to which it may be allied. Each one adopts what he considers some character essential to a species, and when he discovers any other form, agreeing with his ideas of essentiality, but differing in other respects, he assumes that it is but a variety that has sprung from the species, and so classes it.

To any one with a mathematical turn of mind, this is an extremely unsatisfactory state of things. The idea that any study can be a science, the principles of which cannot be demonstrated, is unnatural, and the explanatory apologies about exact and unexact sciences afford no relief. To such a mind the doctrine of Cicero is law. So general a disagreement amongst men proves that the idea is *not* the voice of nature,* and is an *argumentum veritatis* that the idea that all existing forms were independently and specifically created—the source of the existing disagreement—is not true.

And so the beautiful science of Botany, which, from the instability of its principles, proves to be no science, suffers. There are not half the botanists there were twenty years ago, proportionally speaking; while chemistry, geology, anatomy, and other branches amongst whose votaries glimpses of the unity of nature have been more of a practical reality than of a delightful dream, have gained in popular appreciation and real scientific progress.

But it is easier to find fault with a system that is false, than to point out another which is true; and unsatisfied as every scientific mind must be with the independent theory, it asks for a better one before it abandons the other. Many daring geniuses have attempted it and signally failed. Lamarck's effort, recently vitalized by the "Vestiges of the Natural History of the Creation," was little more than still-born, and is one of the most noted of modern at-

tempts. This one of Darwin's is the most recent, and the most plausible of all.

Mr. Darwin goes to his task with the resolution of a David marching on Goliath. He has spent twenty years in the collection of facts bearing on his theory, and has so carefully collected and elaborated them in the present work, that though the mind of the reader will in the main remain unconvinced, it is almost impossible to review it with justice. As the book is one long argument, so is the struggle between what we feel and believe, and the facts as presented — one long continuous effort for predominance. The probability is that Darwin is on the right track; but whether his theory will sustain all that he claims for it, we think very doubtful. The very fact of his having made the subject one of such intense study, is an inference *a priori* that it has been pushed to extremes. We find in our everyday experience, that one closely attached to the study of Entomology is firmly convinced that most of the diseases of vegetation are attributable to the attacks of insects; the mycologist pleads as strenuously for the all-potency of fungi; the chemist and the electrician ride their hobbies as statelily; and the physiologist accounts for all easily, without the help of any of the others. Mr. Darwin starts by handling the non-definability of species most unmercifully, and belaboring it most effectually. He shows that most of the domestic varieties of plants and animals, especially dogs and pigeons—which we happen to know are derived from one original parent stock, though we call them varieties—are yet, in the characters considered essential in the idea of a species, as different as the wild forms or species, the origin of which we do not know; and from this he starts with the *possibility* of his theory, which is that there is really no difference between species and varieties other than what has been stamped on them by the hand of time and circumstances. In a few words, all existing species have sprung from a few primordial forms. All scientists agree that striking variations do occur—the only difference between them and Mr. Darwin is in degree. He tries to prove that there is no limitation to this variation, but you must give him time—several millions of years; but they, on the other hand, assert that the variations are limited, and never occur in any *essential point*. "Thus far shalt thou come, and go no farther," they believe to be the fiat that governs these specific oscillations. Mr. Darwin takes issue with them on this *essential point*, that whenever it is found to vary it ceases to be considered essential, and this arguing in a circle naturally does not suit his system of reasoning. The classification of Linnæus was at one time considered as founded on essential points, until found so variable as to be worthless. Having proved, as he thinks, that variation is un-

* "Quoniam vero in re omni consensio firma gentium omnium est vox nature, et argumentum veritatis." I De legibus.

limited, he goes on to show how these variations assume a specific character. He calls in a new principle—not new in itself, for we are all aware of its reality—but a new principle in its application—a new power, which he calls the “struggle for existence.” An oak in one season may produce ten bushels of acorns, which, with twenty thousand in each bushel, would produce a million of trees. A few hundred oaks in a forest would produce enough to stock the whole globe in a single season. And so on with other things: offspring enough from both the animal and vegetable world are annually produced to stock a score of such worlds as ours. They cannot possibly all survive, and only those do survive that crowd out the weaker individuals. This is what the author metaphorically calls the “struggle for existence.” As temperature, climate, and other circumstances change, only those “struggle through” which by the natural law of variation adapt themselves to the change; and this they do by a principle implanted within them by the Creator, which Mr. Darwin calls the principle of “natural selection.”

This he explains as a sort of instinct common to the whole organic creation, which leads the individual to select that which is best suited to its own preservation and the perpetuity of its own offspring. It is the principle of self-love applied to the whole organic world. And here it seems to us the horticulturist can step into the arena with great advantage, and take a position which may have a material influence on the subject.

We think Mr. Darwin has overlooked the fact that there are two principles in the individual which are diametrically opposite, namely, self-preservation and reproduction. Whatever tends to the vigor and luxuriance of a plant, is so much detracted from the reproductive principle. The most productive trees of the same variety are the shortest lived, and the most healthy and vigorous are those which bear little fruit. It seems to us that where two opposing principles exist, so long as they do exist there must be a barrier beyond which variation cannot go; and a limit to variation being a fair inference in one direction, why may it not be in another? That this limit is more than a mere hypothesis is shown in many things. The pansy is an instance. About a quarter of a century ago, the only representative was the wild *viola tricolor* of English corn-fields. The flower and foliage, in the hands of skillful florists, became larger, and—in a florist's sense—finer, until the flower reached two inches across; but there it stops: no skill has been able to make them finer. The same with the geranium and other flowers—the maximum of size is soon obtained, and improvement in that direction soon ceases. All this, however, is at the expense of the reproducing principle, for all these improved flowers

seed only with great difficulty. It may be argued that “natural selection,” working for the plant's own good, would not allow a plant in a state of nature thus to work to the injury of its reproducing principle; but the instance is only given to show that there is in some respects a limit to variation, and that the opposing principles of reproduction and preservation may have more influence on limiting the powers of natural selection than the author claims for it.

Altogether Mr. Darwin's theory captivates by its beauty, and if true, would throw a new light on many mooted points in Pomology and Horticulture. The wearing out of varieties of fruit perpetuated by grafting, for instance, receives strong corroboration in Mr. Darwin's views; and we can imagine with what delight the spirit of Thomas Andrew Knight contemplates the increased confirmation his theory receives from it. The raisers of seedling fruits will rub their hands in glee, and those who maintain that American seedling fruits are the best adapted to American latitudes, will look you in the face with “did not we tell you so?” expressed in every feature. And not only the practical, but the intellectual mind will enjoy Mr. Darwin's book, let his views be facts or unripe theory. The unity of type in vegetation, first revealed to us by the illustrious Goethé, and known as vegetable morphology, applied to all organic matter is a grand conception of the human mind; and should it be ultimately proved to be the fact, that instead of a single, and, compared with eternity, momentary act of creation, the whole universe is one perpetual manifestation of such a divine work, our reverence for that great, unseen, and omnipotent Author of all will only be increased by the discovery of such wonderful foreknowledge in the arrangement of all things.

Nothing but a careful perusal of the book itself will give the reader a good idea of its nature. As the author himself expresses it, the work is “one long argument.” It is one of the most original works published for many years, and it is impossible to foresee what revolutions it may yet make in botanical science.

THE CRANBERRY CULTURIST. By W. H. Starr. Starr & Co., New London, Conn.

Cranberry culture is just now exciting a high degree of attention, and this little work appears very opportunely. It embraces 32 octavo pages, and treats of varieties, soil, planting, pot culture, profits, and production. With this little work the merest tyro in the art of raising cranberries cannot go astray.

Catalogue of Books of C. M. Saxton, Barker & Co., on nearly every variety of topic connected with urban or rural life.

CATALOGUES.—Negley & Co., Pittsburg, Pa., ornamental

mental bedding plants. *Oden Hayes*, Bellefontaine, O., fruit and ornamentals. *H. A. Dreer*, Philadelphia, plants. *James Daniels*, Philadelphia, seeds. *J. M. Mattison*, Jacksonville, N. Y., dahlias, bedding plants, &c. *Burnes & Washburne*, Harrison Square, Mass., new plants, &c. *Do., do.*, flower seeds. *Geo. Davenport*, Dedham, Mass., grape vines, &c. *Hoag & Crane*, Lockport, N. Y., grapes. *Sayres & Hutchinson*, Cincinnati, O., plants. *G. R. Garretson*, Flushing, N. Y., flower seeds. *A. H. Bailey*, College Hill, O., fruits. *Gilpin & Feast*, Quincy, Ill., evergreens, &c. *John Wilson*, Albany, N. Y., dahlias, &c. *J. M. McCullough & Sons*, Cincinnati, O., fruits, &c. *Joshua Pierce*, Washington, D. C., fruits. *Babcock & Bro.*, Summerfield, Ill., fruit and ornamentals. *A. Plunk*, Lynchburg, Va., fruit and ornamentals.

FOREIGN CATALOGUES.—*J. B. Booth & Sons*, Hamburg, Germany. For botanical accuracy of nomenclature this probably has no superior in the world; and in variety and extent of the several collections it is quite astonishing. The catalogue is in fact quite "a book."

L. Van Houtte, Ghent, Belgium, Plants de serres, et de plein air, as enterprising as ever. Mr. V. H. seems to have every novelty in this new list.

E. G. Henderson & Sons, London. So full a list of seeds that it has to be divided to go through the mail law.

CANADA.—*George Leslie*, Toronto, C. W. Descriptive catalogue of fruit trees, shrubs, &c.

We are apt to think our brethren of the north, with their cold climate, must necessarily be limited in their enjoyments. A glance at this splendid and very accurate catalogue will speedily dispel such an idea.

New or Rare Plants.

NEW FUCHSIAS.—*E. G. Henderson's* of London, are sending out the following novelties; all said to be very superior:

Count Cavour—Large open lilac lavender or mauve-colored corolla, with well reflexed sepals, close jointed growth, and fine habit, forming a distinct exhibition plant.

Dr. Livingstone—Tube clear delicate blush-white, with well recurved white inner-surfaced petals. Corolla blush, shading into a bright violet-rose margin; habit of Silver Swan, free; requires pinching from the young growth at stated periods.

Garibaldi—A beautiful colored flower, with light scarlet recurved sepals, and dark violet-tinted black corolla; free growth, and constant in character.

Longfellow—Rich deep scarlet sepals, well recurved,

in contrast with an intense violet corolla; good habit, and distinct.

Lord Macaulay—A very effective and beautiful variety for competition, having large broad sepals of great length and elegant curve; corolla deep violet. *A fitting name.*

Princess Alice—Style of Maid of Kent; free branching habit and rich green foliage; sepals pure white, and well reflexed; corolla rosy purple, tinted with maroon. A profuse and continual blooming variety for the season.

Prince Alfred—Tube and outer face of sepals blush, with rose stripes, the inner recurved sepal fronts pure white; corolla deep plum or mulberry, with a pure white picturesque base extending one-third of the depth; sepals wide and finely recurved; growth free, robust, and short-jointed, with dense flower clusters.

Prince Imperial—Sepals fine scarlet, broad and recurved; corolla violet, remarkably large, and of great width; habit compact and close jointed. An excellent trade plant.

Prince of Orange—A first-class exhibition variety, having wide scarlet sepals well curved, and of firm leathery-like substance; habit of growth free, graceful, drooping. Unequalled in its section.

PHALÆNOPSIS SCHILLERIANA.—Every lover of orchidæa is acquainted with the *P. amabilis*, the moth-flowered white orchid, and which always makes such a sensation at horticultural exhibitions, and any new species will make as much of a sensation as a blue dahlia would, or a scarlet mignonette.

The *Gardener's Chronicle* says it received a flower of this species from Mr. Consul Schiller, in whose grand collection at Hamburg it blossomed the other day. The Consul informs it that it was obtained by himself from Manilla two years ago, and that out of 30 plants he only succeeded in saving one. The leaves, he states, are of the form of *P. amabilis* (not long as in *P. grandiflora*), and variegated with silver irregular spots. Prof. Reichenbach compares them to those of a *Sonerilla* (such we presume as *margaritacea*), and describes them as being nearly a foot long, blackish green, with broken silver bands above, and purple beneath. The flower stem is branched and the flowers flesh color.

ORNAMENTAL GRASSES are at once extremely interesting and highly effective; the taller growing kinds having an elegant appearance in shrubberies, islands, the sides of ravines, rivulets or lakes: while the smaller sorts add beauty and variety to mixed flower-borders, and many of them, when cut and dried, are invaluable for winter decoration. The following comprise many valuable varieties, which should occupy a place in every garden. We shall add to the list through the season, and invite our friends to send us notes of any they may have that they think beau-

tiful or interesting as objects of beauty or ornament:

Agrostis dulcis, *A. effusa*, *A. elegans*, *A. laxiflora*, *A. nebulosa*, *A. plumosa*, *A. pulchella*, *A. retrofracta*, *A. verticillata*, *Andropogon Sorghum*, *Anthoxanthum gracile*, *Avena sterilis*, *Briza major*, *B. gracilis*, *Briopyrum siculum*, *Ceratochloa pendula*, *Chloris fimbriata*, *C. radiata*, *C. submutica*, *Chrysurus aureus*, *Coix lachrymæ* (Job's Tears,) *Diplachne fascicularis*, *Eleusine corocana*, *E. indica*, *E. oligostachya*, *Eragrostis cylindriflora*, *E. elegans*, *E. megastachya*, *E. Nanaquensis*, *E. Senegalensis*, *Erianthus Ravennæ*, *Lagurus ovatus* (hare's tail grass,) *Panicum colonum*, *P. concinnum*, *P. crus corvi*, *P. crus galli*, *P. eriogona fimbriata*, *Paspalum elegans*, *Pennisetum longistylum*, *Piptatherum Thomasi*, *Setaria macrochæta*, *Sporobolus tenacissimus*, *Stipa pennata* (feather grass,) *S. juncea*, *Trilochlæna rosea*, *Trypsacum dactyloides*, *Uniola latifolia*.

THUJA OCCIDENTALIS, var. HOVEYI.—This is a seedling from the common American, raised by Messrs. Hovey, of Boston, and is said by those who have seen it, to be as beautiful as the *Biola aurea*, and from its parentage must be more hardy and valuable.

this fruit. "The rind is a grayish-green color, varying from light to deep red, extremely sweet and tender, sometimes separating from the rind like the Orange watermelon; size varying from small to quite large.

THE PRINZ APPLE.—Few fruits reached us the past season that gave us more pleasure to look at, and to eat, than an apple under this name from our good friend J. G. Youngken, who informed us that it was from a tree imported from Germany, by the Rev'd Mr. Waage, of Montgomery County, in this State; second to very few in quality, it is at the same time the most beautiful kind we know.

We were under the impression that it might be the *Melon*, of Europe—(not of Downing, which is a very different fruit,) and so wrote to Mr. Waage himself for a full account of the Prinz.

From the way he speaks of the *Melon*, it must be distinct from the Prinz. He says:—

"In my native country, (Duchy of Schleswig Holstein.) The Prinz,

Gravenstein, and another splendid kind—the *Melon*, are the favorites amongst all the apples of that

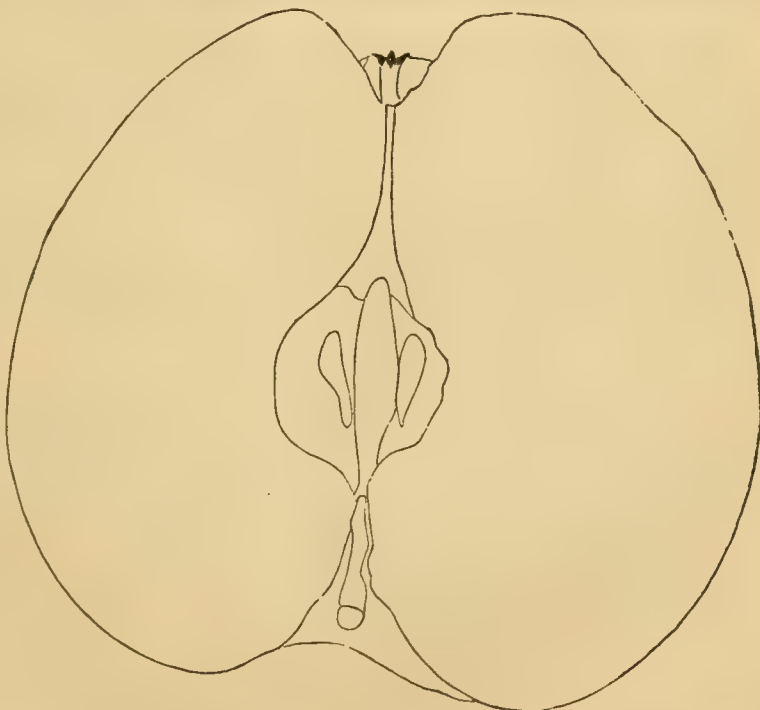
New and Rare Fruits.

STØVER RASPBERRY.—It was found growing wild in August, near Lake Dunmore, in Vermont, by Mr. Jefferson F. Støver, and removed to his garden at Tacony, near Philadelphia, in the fall of the same year, where it fruited in 1859. Being a native of the northern part of the United States, Dr. Brinckle thinks "it will probably be better adapted to the exigencies of our climate than most of the large varieties."

The Berry is very large, full three-quarters of an inch long, by one and one-eighth inches wide; roundish-conical in form; of a rich crimson color, and of good flavor.—*Horticulturist*.

MAXATAWNY GRAPE.—Mr. Berkman thinks this, after good means of judging, a grape of much promise, and though "evidently a hybrid from the Malaga," (he says in *Hort.*) well adapted to our country.

BRADFORD WATER MELON.—A Correspondent of the *Farmer and Gardener* praises and thus describes closely traversed by fine dark green veins; flesh, tender, sometimes separating from the rind like the



Northern region." Mr. W. has had it bearing now eight years, and every year loaded with its handsome fruit.

We made the annexed cut and description from the specimen sent us. Prinz Apple: fruit of the largest size, roundish, ovate, slightly conic, occasionally somewhat angled, rather tapering towards the crown. Skin yellowish green, with occasional brown dots; on the sunny side of a deep crimson blush. Stalk short, rather thick, deeply inserted. Calyx closed in an irregular, somewhat ribbed basin. Flesh greenish-white, juicy, firm for a large apple, with a pleasant sub-acid flavor, quality very good. A very handsome, showy apple.

Domestic Intelligence.

MR. BRIGHT'S VINE BORDERS.—The *Horticulturist*, speaking of these, alludes to a friend's graperies constructed on principles similar to Mr. Bright's, which has been in operation seven years, and with great satisfaction to the owner.

ROSE MILDEW.—A Correspondent of the *Horticulturist*, finds roses drained with charcoal, less subject to mildew than others.

FORCING LETTUCE.—Mr. P. Henderson sows the Brown Dutch, or Black Seeded Butter, about the 15th of September, in cold frames; seed sown thinly, and plants covered by sash on severe nights. About the 1st of January commence to force in deep pits; of these Mr. H. says in the *Horticulturist*—

"It is in the structure and use of these pits that our mode of operations differs essentially from the usual practice in private establishments. The pits are from two and a half to three feet deep; the sides are boarded up with spruce plank, which, if painted with coal tar, will last for fifteen or twenty years. The back board is allowed to rise nine or ten inches above the surface, the front board five or six inches; this gives but a slight angle, but that we do not think any disadvantage. The width of the pit is six feet; the most convenient length we find is about sixty feet, sufficient for twenty sashes. The space allowed between the rows of pits for walking is four feet.

The manure when put in is made moderately firm to the depth of eighteen or twenty inches; it is then covered to the depth of six inches with soil. When the soil indicates a "falling" temperature of 80°, the lettuce is planted at about six inches apart, or about fifty plants in a sash; with due attention to airing in fine weather, and covering up by straw mats, at night, the salad is fit for market in six weeks from the

time of planting, usually about the middle of February. This—the first crop—usually gives a return of about \$2.50 per sash,

As soon as the crop is cut out, the soil is thrown off, and about six inches of hot manure is again thoroughly mixed through the now almost cold bed; this, in a day or two, again enlivens the whole mass, when the bed is planted over again for the second crop. This is usually sold off by April 1st, and is generally very fine, averaging \$3.00 a sash. The weather by this time is warm, and no further advantage is taken of the hot manure; but the pits are again planted for the third crop, which comes in about May 1st, this last is rather late, and does not give more than \$1.50 per sash. The three crops thus give collectively \$7 per sash."

STOCK OF WINE.—Early in February, Mr. Longworth had on hand 460,000 bottles! Pretty well for one grower.

NEW FRUIT BOOK, By Dr. Warder, the *Prairie Farmer* says, will be ready before many months.

WOODBURN, ILLINOIS, March 14th, 1860.—Weather beautiful here now. Spring fairly open, Farmers sowing oats, and I am crowded daily with customers at my nursery.—J. H.

RETARDING PEACH AND APRICOT BLOSSOMS.—A Correspondent of the *Country Gentleman* keeps the ground cool by mulching, and removes it as soon as the weather becomes settled, so that it gets its fair proportion of Spring warmth.

GRAPES—Three Crops in two years.—Mr. H. Simpson, of Saxonville, Mass., still continues his successful forcing. His graperies is 80 feet long. On the 25th of January, the seventeenth crop in eleven years was in blossom and some had set, while the vines were in perfect health.

NATIVITY OF THE ISABELLA GRAPE.—Mr. S. B. Buckley says in *Horticulturist* that this was brought from Europe by way of the West Indies by M. Lespeyre, a Frenchman, early in the present century, and existed in his garden "long before" Mrs. Isabella Gibbs, after whom it was named, ever knew of it. He adds that "it has never been found in the United States by any botanist."

TARRING POTATO SETS.—At a recent meeting of the New York State Agricultural Society, Hon. A. B. Dickinson said he had not sown or planted anything for ten years without a coating of tar, and in planting his potatoes he dissolved one pint of tar in three pails of boiling water, and added four pails of

water afterward. This solution he poured over his seed and mixed it with them, and covered with plaster.

ENLARGEMENT.—Our friend WILLIAM THORBURN, whose Seed Store on the corner of Broadway and Maiden Lane, Albany, has been well known for twenty years or more, has found it necessary, from the increase of his business, to enlarge his borders, which he has done by annexing the adjoining store. The partition having been removed and the two stores made into one, he has now a specious establishment, well filled with all the varieties of seeds necessary for the farm and the garden.

HONEY DEW.—Mr. Nuttall, in his "Travels in Arkansas," says that sometimes the grass on the prairies would be so covered that their shoes and mocassins would present the appearance of having been oiled, and would entirely preclude the idea that it was the production of Aphides. The hotter the period, the greater the deposit. He regarded it as the result of vitiated sap.

OBITUARY.

A. H. ERNST, Esq., Cincinnati.—The decease of this distinguished Horticulturist is announced in the Cincinnati papers. Mr. E. was one of the founders of the Cincinnati Horticultural Society, and one of its most popular presidents. He was originally a merchant of Cincinnati, which in 1828 he abandoned for country life, and he set about forming around him one of the first nurseries in that neighborhood.

Pomology especially was Mr. Ernst's great delight, and he spared no expense in procuring new varieties of fruits from all parts of the world, and testing them thoroughly in his locality. His loss will be severely felt, not merely in Cincinnati but throughout the whole union, where his knowledge of fruits and opinions on fruit-growing, were always received with respect.

Foreign Intelligence.

How ROOTS FEED.—Can the roots of plants take up only such substances which are dissolved in the ground and thus prepared for them, or can they themselves dissolve them?

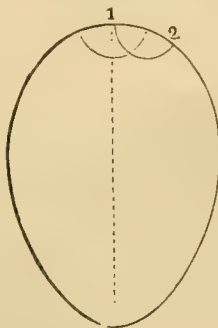
This question has been solved by Liebig, and by experiments made before the Society of Natural Science in Carlsruhe, he has proved that the roots of plants, by giving forth some acid, probably carbonic acid, do dissolve the alkali, ammonia and phosphorus in the soil. Dr. Schimper showed the meeting, as a further proof of Liebig's doctrine, some pebbles which

evidently had been eaten in by roots of plants. The fact was visible, the process, however is not yet clear.

This valuable discovery of the great chemist goes clearly to show us why the rains and floods cannot wash out of the ground the substances forming the food of plants; on the contrary, we now know that the earth takes from the liquids which touch it, and solidly appropriates substances which the roots of the plants again absorb by their action. In the same way we clearly perceive how plants can draw from the soil substances which are solids and which are not soluble by water.—*Deutsches Magazin.*

HOW TO DETECT THE SEX IN EGGS.—Richd. Smith, in the *Collage Gardener*, gives the following directions, founded on long experience:

At the large end of the egg there is a circular space or cavity containing air, which country folks call the "crown of the egg; its proper name I know not.



When you examine the egg, hold it, the large end uppermost, before a candle or gas-light, and in looking through it you will observe a dark circular mark something similar to the moon when partially eclipsed. This dark circular mark is the space filled with air, or "the crown" of the egg, and is to be found in all eggs, situated either in the centre or on the side

of the perpendicular dotted line. (See diagram.)

My method of examining the egg is as follows:—I make use of the thumb and fore finger of my left hand as two points, by placing the small end of the egg on my thumb, my fore-finger covering the large end of it, and as near the centre of each end as possible. I then place the egg in this position steadily before a candle, and gently turn it round; if the crown be in the centre it will be scarcely visible, the figure marked (No. 1) nearly covering it. On the contrary, if the crown be on the side (No. 2,) you will only see it on one side of the egg as you turn it round.—RICHARD SMITH, Wood Green, Witney, in *Collage Gardener*.

We have a mortal antipathy to chickens, as the numerous feathers scattered through our garden amply testify; but as some of our lady friends will have them about, we insert the above, in order that their "worser" halves may know at least how to mitigate the evil, by slyly removing from the nest of the sitting hen the eggs of those which prove the most adacious of trespassers on their choicest seed-beds.

SUBSTITUTE FOR BOX-EDGINGS.—A young contributor to the *Monthly* recently created some interest by an attack on Box-Edgings. Though not agreeing with him altogether, we append a list of plants adapted for bordering, as collected by M. Bouche of Berlin:

Cerastium argenteum, *C. tomentosum*, *Statice armeria*, *Dianthus plumarius*, *Saxifraga cespitosa*, *S. hypnoides*, *S. trifurcata*, *S. umbrosa*, *Geum* of various species, *Sedum involucratum*, *S. hybridum*, *S. spurium*, *S. oppositifolium*, *S. Kamtschaticum*, *S. Emersii*, *S. anacamperos*, *Aubretia deltoidea*, *Arabis caucasica*, *Alyssum saxatile*, *A. gemonense*, *Campanula pusilla*, *Vinea minor*, *Lychnis viscaria*, *Sedum acre*, *Sempervivum tectorum*.

MOVEABLE GREENHOUSES.—At page 79 of our last volume, we gave the details, with illustrations, of Sir Joseph Paxton's new method of erecting these structures. We trust that our readers will not lose sight of this plan of hot-house building, as we regard it as one of the most valuable improvements that have been made since Rivers gave such an impetus to the present popular style of fixed roofed building.

In order to recall our readers attention to the subject, we now insert a few cuts of the elevations, which, with the details referred to above, will give a pretty good idea of their construction and appearance.

Fig. 1.



Fig. 1 is a section of the house Figure 2, and shows the interior arrangements and appearance.

Fig. 2.

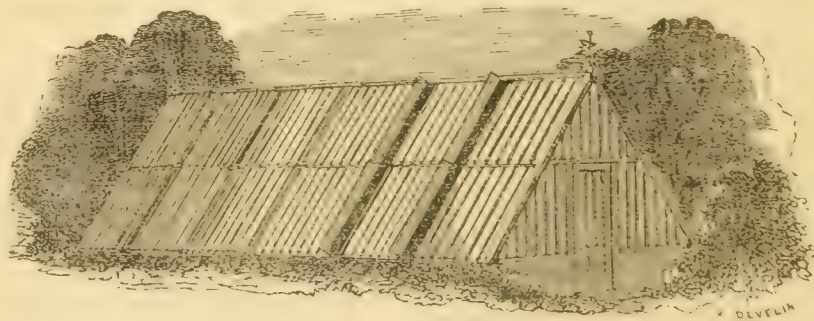
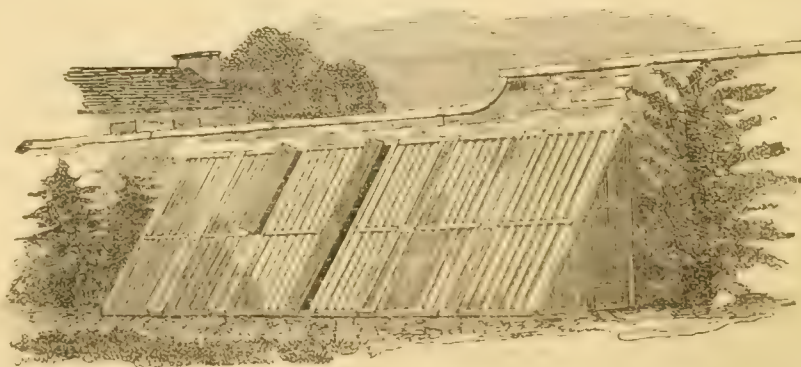


Fig. 3 shows the same principle applied to a lean-to structure. It will be observed that the mode of ventilation is quite new.

Fig. 3.



We have no doubt some of our enterprising horticulturists will soon have one of these structures up, to show us now that we have directed general attention to them, and may book us for a call when one is completed.

THE POPE'S GARDEN is so extensive and so full of all the treasures of art and the luxuries of wealth, that he can scarcely exhaust the variety they afford. The garden of the Vatican covers thirty acres and is one of the most beautiful in the world.

Foreign Correspondence.

From our English Correspondent,

Chester, March 6th, 1860.

I imagine you have no conception of the gigantic proportions of *Cyanophyllum magnificum* and its magnificence; a specimen of which I observed in a private garden near Hamburgh, a few weeks ago, while travelling on the Continent, the leaves of which had attained the immense size of 48 by 35 inches, and promises to become even larger. I also observed a plant at Knowsley Hall, near Liverpool, the Seat of Lord Derby, with leaves 29 by 18 inches, the height of plant about 4 feet from the pot. This is by far the largest leaf I know amongst monoclamydous plants, and, doubtless will even rival the famous *Musa Ensele*, if not in length, most certainly in width and beauty.

Ferns are rapidly becoming much enriched, close on the heels of the beautiful *Pteris argyrea*, which I sent you a notice of, are two other beautiful variegated species; one by M. Linden, of Bruxelles, named *P. tricolor*, quite a gem—fronds in the way of *Pasperi-caulis*, with bright red midribs, down the centre of each pinnae, on either side of which is a beautiful silver stripe. The other has just been imported from Peru to the B. G. Kew, (not yet named) it is a *Pteris*, with a silver edging round each pinnae.

Van Houtte, of Ghent, is also sending out a new *Gymnogramma*, having the upper side of the frond powdered over as with *G. Peruviana argyrophilla*, but with golden color of *G. Chrysophylla*.

The new dbl. Peaches, introduced by Fortune from China, are becoming vastly cultivated; they are fine things for early forcing as pot plants, particularly the dark variety, and are only surpassed by Van Houtte's various-colored one.

Amongst seeds of merit are the following: Turner's Cottager's Kale is the only vegetable which has withstood the severity of the last winter without hurt—a very useful and delicious vegetable; several good new Peas, Brocoli, Leeks, Cucumbers, &c. Amongst good new flower seeds are—*Salvia bicolor*, *Cyclamen Persicum striatum bicolor*, *Macrophylla*, *Spragua umbellata*; *Tropæolums*, Tom Thumb Scarlet, Tom Thumb Yellow, and Tom Thumb Beauty all good for bedding; *Chrysobactrum Hookerii*, *Callirrhæa digitata*, *Lychnis Haageana*.

ROYAL GARDENS, Frogmore, England.

Among the new vegetables lately brought into notice, perhaps the following are among those worthy of especial notice; perhaps the greatest improvement of all is in Peas, and that we owe to the untiring perseverance of Dr. Maclean, of Colchester, who has some years in various experimental ways, in the hope of obtaining the desired end, and one of his principle objects was to reduce the height of our finest marrow, and to get the quality of those that grew 8 feet high, into a dwarf and prolific habit; in the following varieties these qualities are combined, and much earlier than the old varieties, and only from 2 to 3 feet high:

Advancer (Maclean's) is the earliest of all marrow peas; it is an extraordinary cropper and of the finest flavor, and being only 2 feet in height will prove a great acquisition; it is of the green wrinkled class of marrow peas.

Prolific (Maclean's.) This is a fine large wrinkled, white pea, of excellent flavor, and heavy cropper; its height is about 3 feet.

Essex Rival (Macleans.) A very large, second early green-wrinkled marrow; it is of fine flavor, dwarf habit, and very prolific.

Mignon (Macleans.) This is also a wrinkled marrow early dwarf pea only 18 inches high, with a different flavor to other kinds.

Powell's Early Tomato. This is a fine red variety, the principle features being its earliness and dwarf habit; the leaves are smooth and curled, and it does not make so much useless growth as other kinds.

New Perennial Spinach. This is likely to prove a great acquisition to the kitchen garden summer crop, as it is very hardy and will stand the dry and hot weather better than the common spinach; it has a large, thick and fleshy leaf, and will stand two years in this country without seeding.

Frogmore Forcing Cauliflower, or New Early Mammoth, is a variety not surpassed by any other kind for pot culture or any other mode of cultivation. The heads are large, white, and very compact, and its habit very dwarf, and makes but little foliage, and earlier than any other kind.

Incomparable Celery is a very excellent kind, both for early and late purposes; it is very dwarf, close, stiff in habit, and will admit of double the quantity being grown on the same space, compared with other varieties; it is of excellent flavor, solid, crisp, sweet and juicy.

Cottager's Kale. A winter-sprouting green, growing 5 feet high; it will withstand severe frost better than any other of the Brassica tribe, which constitute its principle value.

J. POWELL.

Horticultural Societies.

LIST OF OFFICERS OF HORTICULTURAL AND POMOLOGICAL SOCIETIES.

For the information of those who wish to correspond with the different societies, we furnish a list of the Officers of as many of them as we have been able to procure, and hope to be furnished with any that are omitted. We insert only those societies of a strictly horticultural or pomological, and not of an agricultural character.

HORTICULTURAL SOCIETIES.

Name of Society.	President.	Cor. Secretary.
Pennsylvania, Phila.	M. W. Baldwin,	William Saunders.
Massachusetts, Boston,	Joseph Breck, } Brighton }	Eben Wright, of } Dedham. }
Maury County, Col- umbia, Tenn.	M. S. Frierson.	
Chicago Gardener's, Chester County, W.		
Chester, Pa.	J. K. Eschleman,	Josiah Hoopes.
Buffalo, N. Y.	Jason Sexton,	William Coleman.
New York, (City)	John Groshon,	Thomas Hogg.
Cincinnati, Ohio,	William Orange,	E. P. Crouch.
Montreal, Canada,	William Linn,	William Brown.
St. Louis, Mo.	William Glasgow, Jr.	Carow Sanders.
Cleveland, Ohio,	Dr. Edward Taylor.	
Genesee Valley, Ro- chester, N. Y.	Joseph Harris,	C. W. Seelye.
Brooklyn, N. Y.	Juno W. Degrauw,	Edwin Scott.
Portland, Maine,	T. C. Hensley,	John W. Dana.
Kentucky, Louisville,	Thos. S. Kennedy,	Ormsby Hute.
St. Catharines, C. W.,	James Taylor,	Thomas Shaw.
Richmond, Indiana,	John H. Hutton,	W. R. Smith.
Keokuk, Iowa,	A. Bridgeman,	J. L. Tewksbury.
Fort Wayne, Indiana,	J. D. G. G. son,	H. C. Grey.
College Hill, Ohio,	Jacob Tuckerman,	D. B. Pierson.
Workingmen's, Frank- ford, Philadelphia,		Thomas Hargreaves.
Progressive Gardener's Society, Philada,		R. Robinson Scott.
Moranau, Mo.,	Dr. A. W. McPherson,	Edward Vaughan.
St. Paul's, Minnesota,	Alexander Buchanan,	George Scattan.
Pittsburg, Penna.,	J. Knox, Pittsburg,	Thomas L. Shields.
Toronto, Canada,	Hon. G. W. Allan.	
Hamilton, Canada,	(?)	
Cobourg, Canada,	(?)	

FRUIT GROWERS' SOCIETIES.

Name of Society,	President.	Cor. Secretary.
Western New York,	B. Hodge, Buffalo,	C. P. Bissell, Roch'r.
East a Pennsylvania,	Dr. J. K. Eschleman,	Thomas N. Harvey, }
	Downing, Pa., }	Jennersville, Pa., }
Missouri,	Norman J. Coleman,	Dr. L. D. Morse, Allen- town, Missouri.
Ohio Pomological,	A. H. Ernst, Cin- cinnati, Ohio. }	M. B. Bateman, Col- umbus, Ohio. }
Am. Pomological,	Marshall P. Wilder, }	Meets in Philada., }
	Dorchester, Mass. }	September 11th. }
Conn. Grape Grow's,	Col. D. S. Dewey, }	M. C. Weld, Hart- ford, Conn. }
	Hartford, Conn. }	
Washington, Del.	H. F. Askew,	Dr. G. Pepper Norris.
Am Wine Grow's Asso.		
Cincinnati, Ohio.	Dr. N. B. Shaler,	S. W. Hazeltine.

PENNSYLVANIA HORTICULTURAL SOCIETY.

MARCH.

Mr. Mackenzie made an exhibition of Camellias, that has not perhaps ever been equalled any where. As they were all first-class varieties, we append a list of the whole:

6 Camellias in pots, first premium; 1 C. alba pleno, 2 C. Renica, 3 C. Sovereign, (Low's), 4 C. Mrs. Cope, American, 5 C. Archduchess Augusta, 6 C. General Wayne.

15 Cut Flowers, first premium, viz:—Camellias Miniata, Mrs. Cope, (American), Reine des Fleurs, Alexina, Archduchess Augusta, General Wayne, (American), Alba pleno, Duple's White, Ellen, (Mackenzie's), American, Town's Blush, Imbricat, Sacco magnificque, Duchess of Orleans, Myrtifolia, Queen of Denmark.

Collection of 70 Flowers—Camellia Fordii, Mrs. Lurman, (American), Ochroleuca, Henri Fave, Sarah Frost, (American), Mammoth, (Mackenzie's), American, Alba imbricata, Jeffersonii, Joan of Arc, Louisa nova, Johna, Brad or Sublim, Carswelliana, Lawrenceana, Pom-pone, Finbrasta, Maria Therese, Andalus, Smith's American, Fossini, (American), Tricolor, Candidissima, Doncklaarii, Andrea, Lodiges, Grevilles red, Gillesii.

APRIL.

The stated meeting and display of this Society was held on Tuesday evening, the 17 inst. We cannot but congratulate the Society on the magnificence of the exhibition, and it was, without exaggeration, the finest collection of beautiful and well grown plants and flowers ever brought together at a monthly meeting. The old spirit of the Society, which formerly made its meetings so attractive to persons of refined taste but which has been dormant for several years, appears to have become enlivened and determined to resume its activity, and again make these displays the centre of attraction to our citizens. It would perhaps be difficult to specify the names of those who had contributed the best collection of plants, where all were so very excellent. The Committees, without doubt, found very great difficulty frequently in making the awards as required by the schedule of premiums.

We gave out the names of the Exhibitors and the Reports of the several Committees, only remarking that we hope that the display for the next month, and hereafter, will as much exceed the present as this has surpassed the previous ones.

Plants and Flowers.—By Jno. Landers, gardener to S. T. Altman; Thomas Meighan, gardener to Joseph Ripka; Thomas Meighan; Wm. Joyce, gardener to M. W. Baldwin; John Pollock, gardener to James Dundas; John Randall, gardener to J. D. Whetnam; James Thomas, gardener to A. J. Buckner; Henry A. Drer; James Matheson, gardener to Francis Yarnall; James Eadie, gardener to Dr. Rush; John A. Goehring, M. Hegarty, gardeners to Joseph Harrison; and Chas. H. Miller, gardener to R. D. Key King.

Grapes.—By John Cook, gardener to Rev. J. M. Richards, and by William Joyce, gardener to M. W. Baldwin. Applies by the same. Vegetables by Thomas Meighan; Anthony Felten, gardener to Henry Duhring; Thomas Robertson, and John Cook.

The Committee on Plants and Cut Flowers awarded the following premiums: For Pelargoniums, best to James Thomas, gardener to A. J. Buckner; Geraniums, best to James Matheson, gardener to F. Yarnall; Cinerarias, best to M. Hegarty, gardener to Joseph Harrison; second best, to John Randall, gardener to J. D. Whetnam; Roses, best to Henry A. Drer. The same exhibitor had several more collections of roses which would have received premiums, but that they were excluded by the rule of the Society on the subject. Azaleas, best to John Pollock, gardener to James Dundas; second best to James Eadie, gardener to Dr. Rush; Azalea (dwarf), various specimens, best to John Landers, gardener to S. T. Altman; Hyacinths, best to M. Hegarty, gardener to Joseph Harrison; second best to Thomas Meighan; Pansies, best to Henry A. Drer; second best to James Thomas, gardener to A. J. Buckner; Collection of ten Plants, best to William Joyce, gardener to M. W. Baldwin; second best to John Pollock, gardener to James Dundas; third best to C. H. Miller, gardener to D. R. King; Specimen Plant, best to William Joyce; second best to James Eadie; Specimen Plants, one pair, best to Jno. Pollock; second best to James Eadie; New Plants, shown for the first time, by Thomas Meighan, a new Azalea, Duke Adolphus of Nassau, and a new Lycopodium, Solaginella Compacta, new Geranium, General Simpson, Colonel Harcourt, and Duchess of Kent, were reported by the Committee as not sufficiently grown to show their merit. New Plants by Charles H. Miller, Pothos, Violeae and Caladium atropurpurea, were not in flower. Table Designs, best to Jno. A. Goehring, second best to Thomas Meighan.

The Committee also awarded the following special premiums:—Of \$3 to John Pollock, for a collection of very beautiful Begonias, including two new ones, shown for the first time, viz: Prince Troubet-sky and Roi Leopold; of \$4 to James Eadie, for a large general collection of very beautiful plants; of \$3 to Chas. H. Miller, for an unusually fine collection of variegated plants; of \$2 to James Eadie, for a collection of splendid orchids; of \$1 to John Pollock, for Calceolarias; of \$1 to Thomas Meighan for a large collection of Hyacinths and Tulips. The Committee also called attention to a collection of Camellias, exhibited by Mackenzie & Son, and also to three vases of flowers by Henry A. Drer.

The Committee on Fruits awarded special premiums to William Joyce, for Apples and White Grapes; and to John Cook, gardener to Rev. J. M. Richards, for Black and White Grapes.

The Committee on Vegetables awarded, for best Asparagus to Jno. Cook; for Cucumbers to Thomas Meighan; best Rhubarb to Thos. Robertson; and second best to A. Felten; to the best Radishes, to the same.

There were several new members elected, and some proposed.

FRUIT GROWERS' SOCIETY OF DELAWARE.

At the meeting on the 21st of March, Dr. H. F. Askew was elected President the ensuing year; Samuel Canby, Vice President, and Dr. G. P. Norris, Secretary. A great number of new members were elected. A resolution of Ed Tarnall was adopted, inviting members of other Societies to aid in their Society; and the Fruit Growers' Society of Eastern Pennsylvania to hold one of their meetings there.

CHESTER COUNTY HORT. SOCIETY.

The next Semi-annual Exhibition will be held at West Chester, on the 15th and 16th of June.



1. *Caladium bipojitum*
 2. *Caladium*
 3. *Senecio Margaritacea*

M. Roemerh. del.

4. *Senecio bipojitum*
 5. *Caladium bipojitum*
 6. *Senecio bipojitum*

THE GARDENER'S MONTHLY.

DEVOTED TO

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THOMAS MEEHAN, EDITOR.

JUNE, 1860.

VOL. II.—NO. 6.

Hints for June.



FLOWER GARDEN.

JUNE, the month of Roses, having arrived, the preparations of the past six months ought to be now bearing their harvest of enjoyment to the proprietor. And to return to the Rose—the queen, or the empress, or rather the most perfect; the true woman of all flowers—no care that can be bestowed on it will be a fair recompense for its matchless beauty and loveliness. The Summer or June Roses are not so much cultivated since the many fine kinds of perpetuals have come into existence; but these, in order to derive from them all the beauty they are capable of affording, must have a special treatment. As soon as the first flowers are fairly faded, they should be cut off several buds below the flower; from the shoots which will then be encouraged to push from the remaining buds a very free bloom will be received some weeks afterwards.

Every opportunity will, of course, be taken to keep down the weeds. As soon as they are barely visible, the ground should be hoed over lightly, and the surface afterwards broken fine and smoothed over with the back of small rake. This not only gives a neat and cared-for appearance to the flower-beds; but the free admission of air, which a thorough pulverization of the surface-soil effects, is one of the best means of keeping the soil from drying out, and thus avoiding the necessity of frequent waterings, which, though they cannot at times be avoided, have always attendant disadvantages. Should soil so finely raked appear to “bake,”—that is, form a crust on the surface—after heavy rains, all you have to do is to hoe and rake it over again. It will be any thing but labor lost on your flowers.

As soon as Tulips, Hyacinths, Lilies, and other bulbs have done flowering, and the leaves at their base finished growing, they are better taken up and

put in flower-pots, mixed with dry sand, and set in a dry place till the season of planting in October again arrives.

FRUIT GARDEN.

Strawberry time has doubtless had the effect of stimulating the resolves of the owners, to have “some more of them” another year. Where this is decided on, take care to give the runners every chance to perfect themselves, by providing good rich soil for them to run into, and by thinning out the weaker ones, that they may not rob and impoverish the rest. When the Raspberry has done bearing, the old fruit-bearing canes should at once be cut out, and also many of the weak suckers, leaving only about six to each square foot to perfect themselves for bearing another season. The fall-bearing kinds are much aided by having the bearing shoots of the present season cut back severely about this time, say to within two feet. There are some who slyly hint that many of this class owe their sole reputation to this practice; but this is by no means certain.

The mildew on the Gooseberry will appear about this time. It is now a pretty well ascertained fact, that any thing that injures the tissues of the leaf, will be followed by an attack of mildew on the part so injured. The Gooseberry luxuriates naturally in mountain districts, and in a moist atmosphere, and as soon as our dry seasons commence, the leaves are injured and mildew appears. Any thing, therefore, that will favor moisture about the bush, will prevent mildew. Partial shade, salt hay, deep soil, and similar experiments may be tried.

Pears and Apples, especially those on dwarf stocks, ought not to be allowed to bear too freely; the irreparable injury, and often death, of the tree is frequently attributable to this mistake. So long as a tree appears to grow freely, no injury from over-cropping is likely; but as soon as they seem to have no inclination to make wood, something is wrong, and it should not be permitted to bear much fruit.

Attention will now be required to the nice operation of summer pruning. Articles in our former numbers will explain the principles which can be applied to all kinds of fruit trees.

VEGETABLE GARDEN.

In Northern latitudes, and even in many parts of the Middle States, the first week in June is the chief period chosen for the main crops of Corn, Beans, Squash, Melons, Cucumbers, Okra and other kinds of seeds that are liable to rot if sown before the ground has become quite warm. Most persons plant Corn in hills. This is an error in garden culture. It should be sown in drills, and at such distances as ultimately to be eighteen inches apart. In hills each plant robs the other. It is so employed in field culture for the convenience of hoe-harrowing by horse-power. Pumpkins and Squashes grow very well amongst Corn, neither crop seeming any the worse by the presence of the other,—probably each feeding on the different matter.

The Swede Turnip or Ruta Baga should be sown about the end of the month. A well-enriched piece of ground is essential, as by growing fast, they get ahead of the ravages of the fly. Manures abounding in the phosphates—bone-dust, for instance—are superior for the Turnip.

Cabbages and Broccoli of all kinds for fall use, are to be planted out this month, and the ranker the manure, the better they seem to grow.

Celery for early use is often planted out this month, though for winter use July or August will be early enough. It is best to set out in shallow trenches, for convenience in watering, the Celery being fond of hydropathic appliances. If the ground has been deeply subsoiled, and the subsoil well enriched, the trenches may be near a foot in depth, for convenience in blanching; but beware of planting down in poor, barren subsoil. Many plant in double rows. Where very superior Celery is not an object this will do, but the single-row system is the best for excellency. The season is now arriving when the advantages of subsoiled ground will be apparent. In such soil plants will grow freely though there be no rain for many weeks.

Sweet Potatoes must be watched, that the vines do not root in the ground as they run, which will weaken the main crop of roots. They should be gone over about once a month, and with a rake or pole, the vines disturbed somewhat from their position.

Endive is becoming very popular as a winter salad. Now is the time to sow. The Curled-leaved is the most desirable. Sow it like Lettuce.

Carrots and Beets for winter use may still be sown on rich, light soil, and often make roots much preferable for flavor and tenderness to those sown earlier in the season.

Herbs for winter use should be cut just about the time they are coming into flower. They should be put in an airy place, but in the shade, to dry, and be turned over every other day for a week, before being

tied up in bundles and hung up in the store-room. Clean housekeepers put the dried herbs in muslin bags, which keeps dust, flies and spiders from injuring.

Onions, on showing signs of decaying foliage, should be drawn up and thoroughly dried before stowing away. The great secret of keeping Onions is to get them first thoroughly ripe, and then thoroughly dry, before putting away in the store-room.

HOT AND GREENHOUSE.

Oranges, Oleanders, and other large plants in pots or tubs, that are now commencing to grow, should be shifted into larger or fresh soil if they require it. This is generally known by the growth being weak, and the leaves small. Sometimes the plants are sickly through the soil having become sour, and the roots, in that case, are rotten. This is usually known by the leaves of the plant being yellow, and of a very sickly appearance. The best way is to take out and wash the roots, just before or as growth is commencing, and repot anew in fresh-soil, employing the smallest pot or tub that the roots can be well got into. Cuttings of Geraniums or similar plants, required for flowering in houses next winter, should be put in at this season. Camellias and Azaleas, and other things that it is desirable to inarch, may be operated on as soon as the wood is firm enough; that is, as soon as it has progressed from the watery to the woody state.

Communications.**CLIVIA NOBILIS.**

BY A. F., PITTSBURG, PA.

[Translated for the Gardener's Monthly.]

[CONTINUED FROM PAGE 145]

In order to modify the great difference between the native growth at the Cape, and the scientific care in our greenhouses, it is necessary to water the plants much less in winter, but at the same time maintain a suitable warmth and allow them all the light and sun possible, or else they will always have bad provision for flowering. An error is frequently made by many in supposing that these plants, in their resting state, need no care whatever, and can be stowed in any corner where they are just saved from complete destruction through cold or other injury, and only require attention when they begin to sprout. There is a great difference between keeping a plant alive, and bringing it to full growth; it is also one thing to mature a plant, and quite another to make it bloom luxuriantly. The greatest difficulty is to become familiar with the various circumstances by which a plant is surrounded in its native habitat, and afterwards to imi-

tate these, or compensate for them in a suitable manner. Several bulbs, at particular seasons, shrivel both their roots and leaves; these varieties can, in this condition, be placed in a very dark place, provided it is dry, and at a proper temperature; but bulbous growths, which retain their roots as well as their leaves, need light, even during their time of rest, because here the life does not withdraw to the very innermost of all the faded vegetable structures, but by means of the circulation of the juice in the leaves the matter is altered and renovated by secretions. The consideration of these external conditions and of the internal plant life, furnishes the best guide in the artificial culture of foreign plants.

From such observations, we arrive at the following rules for cultivating the *Clivia nobilis*:—A temperature from 50° to 65° fahr., according to facilities, kept steadily at one point, because rapid vicissitudes do more harm than a lower temperature, if it be uniform. Water should be given in sufficient quantity to prevent the leaves from wilting. Towards spring, when the vegetation has advanced, according to the corresponding growth, water should be more freely given till fall, when the rest time begins, and the moisture is withheld. During the latter period, when the pots can be sunk in a hotbed it not only improves the plant generally, but particularly assists in the production of the flower; bottom heat is also of great service to the young off-shoots.

For room culture, a raised shelf in a window, exposed to the sun, is the best place during the time of activity, and the plants can remain there in winter, when they are protected from frost by double sash or other means, otherwise they should be placed on a flower-stand in the centre of the room, where they can enjoy some light. This plant requires a soil of rich mould mixed with sand, to which peat has been added, and, on account of the abundance of its roots, a large pot, with a deep layer of pot-sherds, for drainage.—*Deutsches Magazin*.

The spirit of the above disquisition carries us to the bosom of a region where nature has been most lavish in her self-adornment, and where it has been shown in what endless variety a single genus can be produced, to enjoy for a time, in imagination, the beauty and perfection of these flowering gems, whilst its practical bearing shows, that by diligent and careful study of phenomena, we may, without attempting "to hold, as 'twere, the mirror up to nature," so imitate her ways as to enlarge our knowledge and brighten our firesides by the presence of plants unknown in our inhospitable climate. The philosophic tone of its teachings vividly recall a graphic and delightful picture of the tropical seasons, and the striking effect, both upon vegetable and animal life, produced by the genial rain upon the parched and thirsty ground,

given by Humboldt, in his Views of Nature, to which we would respectfully refer any of our readers who have not already perused it.

TEA ROSE—GLOIRE DE DIJON.

BY PROF. PAGE, WASHINGTON, D. C.

The following particulars are worthy of note at this time concerning this matchless Rose. I have twice before alluded, in your journal, to a Dijon bush which made an aggregate growth last season of 75 feet. That bush is now, April 6th, pushing vigorously at the very summit of its long branches, many of the shoots being six inches long, and well filled with leaves, and is the most forward Rose bush on the place. The remarkable feature about it, is, that while the thousands of Tea, Noisette and Bourbon Roses on my grounds have been destroyed, to within two or three inches from the ground, this Rose bush should not have been injured in the least, belonging as it does to the tenderest class of roses. Imagine this monarch of roses a month hence, loaded with its huge globular and cupped flowers of incarnate and yellow, and salmon hues, each distilling a fragrance rivalling *Devoniensis*, and you have some conception of the value of *Gloire de Dijon*, hardly yet appreciated by our amateurs.

During the past twenty years, there has not been so much injury done to vegetation as in the winter just past, and nothing could more clearly establish this fact than the injuries done to the following hardy plants. The flower buds of the following trees and shrubs have all been killed, and the plants themselves much hurt:—*Pawlonia Imperialis*, *Spiraea prunifolia*, *Pyrus japonica*, *Forsythia viridissima*, nearly all the Peaches, Almonds and Apricots, and, what is very remarkable, the tree *Pæonies* are cut down to within three inches of the ground. All this mischief was done in January, when the thermometer fell to 10° below zero fahr., after a mild spell of weather. A Tea Rose that will so perfectly resist such a winter here, must certainly stand out unprotected very far North of this, especially if upon a wall. For the conservatory border, or for adorning the back wall of the conservatory or greenhouse, it is without a rival, as a four years' old bush will testify, which at this moment is loaded with a profusion of its cups of nectar.

TAYLOR'S BULLITT GRAPE.

BY W. R. PRINCE, FLUSHING, L. I., N. Y.

Agreeing, as I do, with Dr. Garber's fear of confusion in names, and with your ideas touching the authoritative nomenclature of fruits, I think your suggestion, that the name which heads this paragraph be adopted for the grape hitherto known as the Taylor or Bullitt, should receive public approval, and I shall assume it.

IMPROVING GRAPES AND OTHER FRUITS BY CROSSING.

BY WM. BRIGHT, LOGAN NURSERY, PHILAD'A.

The art of crossing Grapes and other fruits, has recently been so far perfected, that any desired cross or "hybrid" (as such seedlings are erroneously termed) may be obtained with the utmost degree of certainty; and we may now look forward with confidence to the production of seedlings, suited to vineyard culture in this country, which will rival the most famous grapes of Europe, and other seedling fruits surpassing in excellence any that we now possess.

During a recent visit to England, we found that the old practice of depending on chance seedlings was pretty generally abandoned,—and the method of Mr. T. A. Knight, explained now many years ago in the Horticultural Societies' transactions, but not much practised since his day by more modern fruit raisers, was in general favor, and with the best results.

As many in America have never heard of Mr. Knight's plan, we will give it before we conclude.

Before, however, proceeding to describe the process by which any two grapes or other fruits may be crossed, so as to produce with certainty a seedling having the best qualities of the two parents, we will state in what manner, and by what kind of crossings we think vineyard grapes may be obtained, suited to the climate of the United States.

The best native grapes yet discovered on this continent, it must be confessed, do not possess qualities fitted to make wine as perfect and delicious as that which has been produced in Europe. It is then to the foreign grapes that we must look for the higher qualities of delicate texture and exquisite flavor, which are wanting in the natives. Much might no doubt be accomplished towards improving our native grapes by high and careful culture; by strengthening the stock; and by selecting the best grapes and the best seeds from our best natives, and planting them for many years; but the task is a formidable one, and the result at best uncertain. No point sufficiently high could ever be reached by that process. Nor can we hope that a perfect wine grape will be produced by chance American seedlings, or even by the scientific crossing of natives with each other, for we cannot surely suppose that the native grapes, in their unions with each other, can produce qualities which the parents do not themselves possess.

By crossing the most hardy and perfect of the foreign grapes with the best natives, we may hope to obtain seedlings possessing the vigor of the natives united to the higher qualities of size, texture and flavor, which exists only in the foreign kinds. The *Black Hamburgh*, for instance, is nearly hardy out of doors in this country, as far north as New York, and

has frequently been ripened in favorable situations, in gardens near that city. It is, all things considered, the best grape grown, in Europe or America. In the hothouse and cold grapery, the *Black Hamburgh* will endure more bad treatment than any other grape. It resists mildew, under severe extremes of moisture or dryness, with great power. It is a strong grower, a free setter; its bunches are large, its fruit is scarcely surpassed in qualities suited to all tastes, by any of the new kinds. From the *Black Hamburgh*, in a cross with our natives, we should expect to obtain rare qualities.

In our first attempts at crossing, we should not go back to the wild fox grapes for a native parent. The grape which we should take, in preference to all others, for a union with the *Black Hamburgh*, would be the *Diana*. This, we think, is the best of all our true natives grapes. It is an immensely strong grower; an uncommonly free bearer; by far the richest and most delicate in flavor: and is, to say the least, as little affected by mildew as any other, we think much less so. Its juice contains a large proportion of saccharine matter, and its entire flavor is peculiarly aromatic and wine-like.

We do not anticipate that the highest result would be attained by a single cross of a native with a foreign grape. Possibly a cross between the *Black Hamburgh* and the *Diana* might not be sufficiently hardy to stand out of doors successfully. We might have to go back again with the seedling to a cross with some more hardy native; or if the first named cross were hardy, the flavor might not be precisely that which we should desire, and a more perfect grape might be obtained by a cross with some other hardy foreigner, and this latter seedling, if not altogether hardy, might be strengthened by crossing with another native, and so on.

Another cross which we should advise, would be the *Diana* with the *Chasselas de Fontainbleau*. This is a white grape, quite as hardy as the *Black Hamburgh*, and nearly a month earlier. It has been ripened in this country in the open air. It is a free grower and immense bearer. The form of its bunches very much resembles that of the *Diana*. Its flavor is delicate and extremely delicious. We have no faith in any other *Chasselas* as a cross.

The *White or Grizzly Frontignan* would make another good parent with the *Diana*. This is a very hardy, free growing grape, with a fine muscat flavor.

We do not think that the *Muscat* grapes can ever be crossed with our natives so as to produce a hardy seedling. They are all too late and do not ripen their wood sufficiently to stand our winters. We must look to the *Frontignan* grapes for the muscat flavor. The *Black Frontignan* is more tender than the *White* or the *Grizzly*.

The *Zinfandel*, we think, would be a good grape to cross with the *Diana*. It is a jet black grape, comes early to maturity, produces a good crop, and resists mildew well. Its flavor, however, is second rate.

The true old *Dutch Sweetwater* is the earliest of all the foreign grapes. It is six weeks earlier than the *Black Hamburg*, when standing side by side. It is a delicious grape, an immense bearer, and ripens its wood perfectly. Its union with the *Diana* would certainly, we think, produce a first rate early grape.

The *Muscat Muscadine* is another early grape, and a very free bearer. Its color is white, and its flavor resembles the *Sweetwater*. It does not readily mildew, and we think it would answer admirably for a cross with the *Diana*.

The *Trentham Black* is a very early new grape, said to be quite hardy out of doors in England, and seldom affected by mildew. We have seen a vine of this variety bearing twenty large bunches of well perfected grapes, in an eleven-inch pot. We should try this also with the *Diana*.

Those who have any favorite native grapes, suited to make wine, in any part of the United States, may try a cross of them with the best foreign grapes, as for instance the *Herbemont* and *Scuppernong* at the South; the *Mustang* grape in Texas; the *Catawba* in the West; the *Concord* at the North, &c. We think the *Catawba*, well grown, is next to the *Diana* in all its qualities as a wine or table grape.

The process of *Crossing*, by which a union may be effected between two grapes or other fruits, with positive certainty, we will now proceed to describe.

The flowers of grapes and most other fruits, with a few exceptions, (as the palm, and the osage orange,) are hermaphrodite, that is, they possess both male and female organs in the same flower. By this new method of crossing, the flower on one kind of grape is scientifically deprived of its male organs, and thus made of necessity (as we may say) the *mother*, or *female parent*; while the other, being permitted to retain its male organs, becomes the *father* of the new seedling. Our suggestion would be, in most attempts at crossing, to make foreign grapes the males, and natives the females.

The process is one requiring much care and skill, and not a great number of flowers could be operated upon at a time; but this would not be necessary, as a single bunch, properly impregnated, would produce upwards of two hundred seeds.

The vines to be crossed should all be kept in a cold vinery. It is not important that they should begrown in close proximity, but of course they should be brought into flower at the same time, in fact, as nearly as possible at the same moment. The best way to accomplish this, would be to grow both the natives and foreign grapes in large pots, as they could then

be so placed, and so treated, as to hasten or retard the time of flowering, and thus more successfully attain the object.

Now, we will suppose that you have a *Diana* and a *Black Hamburg* vine, both in flower at the same time. The *Diana* is first to be changed from the hermaphrodite condition to a female; that is, the male organs are to be removed from the flower. With a pair of fine-pointed grape-thinning scissors, carefully clip off the *stamens* (the male organs) and it will then no longer possess the power to impregnate itself, it will become essentially a female. In doing this be very careful not to injure the pistil of the *Diana* flower. This operation must be performed upon the flower the instant it is developed, so that you can see the stamens. In some kinds the anthers burst before the petals open, in which case the petals have to be carefully removed, which, when done carefully, will not injure the other essential organs of the flower. Now having a flower of the *Black Hamburg* just perfected, you will take it off by the stem with a pair of tweezers, being careful not to shake it in the least, and dust the pistil of the *Diana* flower with the pollen of the *Black Hamburg*, applying it very gently, just touching the pistil with the pollen, or fertilizing dust which lies on top of the anther. This being properly done, a cross is effected, scientifically and positively, and the seedling resulting from that union will exhibit the characteristics of the two parents, with a degree of certainty and exactness truly surprising.

While in England, last winter, we saw many extraordinary and highly gratifying results from this method of crossing, some of the most famous new grapes being obtained in this way. The *Black Hamburg* being crossed with the *Dutch Sweetwater*, the *Hamburg* being the female and the other the male, produced the splendid *Golden Hamburg*; the union of the *Black Hamburg* as male, with *Muscat of Alexandria*, brought forth the superb *Muscat Hamburg*. The *Trentham Black*, the *Marchioness of Hastings*, the *Bowood Muscat*, *Lady Down's Seedling*, and that magnificent new grape, the *Buckland Sweetwater*, are all the results of crossing European grapes with each other, by this scientific method. Not more than one or two decidedly good seedling grapes had been produced in England for thirty years previous to this practice. No crosses have been made with native grapes in Great Britain, as they have no indigenous grapes, or at least none of any value.

What glorious results are these from careful scientific crossing! And with such success in the commencement of this new era in grape culture, what may we not expect in all the world hereafter! What high incentives to patient experiment are here offered to the amateur and the professional grape grower!

And how do paltry chance seedlings, picked up in American woods and gardens, sink into insignificance before the prospect, now opened, of true scientific progress in the production of seedling grapes!

The method of crossing above described, may be performed with all fruits as successfully as with the grape. At the Royal Gardens, at Frogmore, England, we saw a very valuable cross between the Morello Cherry and the May Duke. The fruit department at these Gardens is under the directions of Mr. JOHN POWELL, of whom it is not too much to say, that he is beyond comparison the best practical pomologist in the world. Mr. Powell has practised crossing, according to the specific rules we have here given, very extensively, and with the most gratifying success. The Morello Cherry, it is well known, has a tendency to form barren wood, instead of fruit spurs. The May Duke, on the contrary, has the habit of forming fruit spurs freely. The object of the cross above alluded to, was to impart to the Morello the habit of the May Duke, and this Mr. Powell most happily accomplished. Of three blossoms impregnated by hand, two of them furnished seed which produced trees bearing Morello fruit with the prolific habit of the May Duke,—the May Duke giving part of its delicious flavor, united to the keeping qualities of the Morello; a great improvement upon the latter.

Experiments with Pears have been equally successful. Among other instances we saw a cross between the Bergamot and Seckel, the result being a half Bergamot and half Seckel, in the habit of the tree, and, in the size, quality and flavor of the fruit.

The same thing may be done with Strawberries, Currants, Gooseberries, Apples, and all other fruits. Mr. Powell says he feels certain that by this method of crossing we have the nature of seedlings to be produced entirely under our control. Very interesting and useful experiments might be performed by crossing, for instance, the Bartlett and the Seckel pear. There is plenty of luxuriance of growth in the Bartlett, and great productiveness in the Seckel, with high flavor in both; they also ripen nearly at the same time. Such a cross as this, properly effected, could not fail to be a great acquisition. So of a cross between the Bartlett and the Lawrence—this last being a very vigorous tree, rather later than the Bartlett, and altogether a very excellent pear. Other combinations might be suggested by a little reflection, even more desirable than these.

The production of Seedlings, the world over, has heretofore been entirely the result of accident, the wind or the bees doing for us, by chance, what we had not intelligence enough to do for ourselves. But now that science and ingenious practice have shown us the art of performing this work, with precision and almost mathematical certainty, a great revolution

cannot fail to be effected in our estimate, not only of our native and foreign grapes, but of all fruits now considered first rate; and we fancy but few years will elapse before our Pomological societies will be called upon to revise their entire lists of select fruits; and in this eager and progressive age, it may be somewhat difficult for them to keep pace with the march of improvement in this direction.

[Mr. Bright's article is suggestive of many important matters.

One of them teaches how important it is to continually bring good ideas before the public. Though Mr. J. Fiske Allen, of Salem, and Mr. Rogers, of Salem, Mass., and others in the United States and Canada, have raised valuable seedlings by this very process of hybridization or crossing, we are satisfied that Mr. Bright's detail of the practice, will be new to nine-tenths of our readers. Indeed in spite of the successes of the gentlemen referred to, some of our best pomologists believe that the grape cannot be crossed.

Another point suggested is, that a failure should not discourage further attempts. Mr. Knight, in one of the papers alluded to by our correspondent, states that he crossed the Morello Cherry with the May Duke, and was so very successful that the progeny were perfect mules, all bearing flowers, but never producing any cherries; and yet we have here the acknowledgment of Mr. Powell's succeeding with the very same varieties, in producing an useful result. We should be glad to hear from some who may have tried the northern hybrids, how they have so far succeeded with them.—Ed.]

TOBACCO LEAVES AGAINST THE PEACH BORER.

BY N. L. WOOD, SMITHFIELD, OHIO.

For many years we used Tobacco leaves or stems from a cigar shop, with perfect success. Apply them about the 1st of June, in small quantities, close around the roots of the trees, at the surface of the earth. The insects will not approach while the tobacco is there.

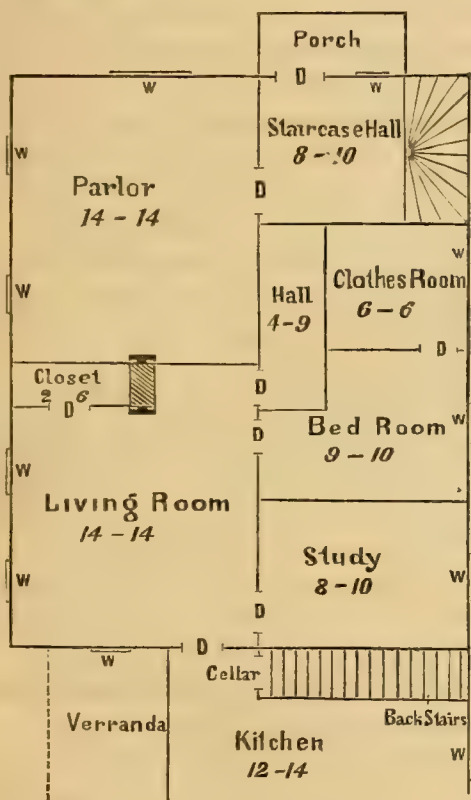
We have also tried, for a few years past, a mixture of Tar and Lard, (about 1 part tar to 3 parts lard,) with very satisfactory results.

[Several correspondents write of the benefits of Tobacco leaves, and we judge the hint is a valuable one for borers of all kinds. The quality of gas tar varies, and should be used with caution. That of Philadelphia, applied to the collar of trees, has no injurious effects, nor has the tar of some other places; but in others injury has resulted.—Ed.]

PLAN OF A RURAL COTTAGE.

BY S. L. B., BROOKDALE FARM, MAINE.

The accompanying plan comprises as many conveniences and advantages as can be had in a cottage of moderate cost and medium size. It is designed for a farmhouse, where the lady wishes to preside over domestic matters, and has been especially planned for a family of culture and intellectual habits. The general plan is also well adapted for a gardener's cottage, or a tenant house.



The arrangement of the rooms in the main house, is well shown in the plan, which does not represent the whole of the L or wing devoted to the kitchen. This may extend to any desired length, and have as many rooms as the wants of the occupants require. In the kitchen is a pantry, an entry opening upon the verandah, washroom, &c. The wood-house is entered from the kitchen, from which the cellar and back chamber is also approached. The study may be used as an office, and may be arranged with cases for books, papers, specimens in natural history, minerals, dried plants, &c., according to circumstances. If necessary, the study may be converted into a bedroom, and a connection made between the two by means of a door.

The second floor comprises three good sized bedrooms with the usual closets. The second floor of the L part may be arranged into two or three suitable sleeping rooms for workmen, &c.

An elevation is not given, as it may be erected to suit the taste of the owner. The cost of building would of course vary much with the materials used, and the locality.

APPLES IDENTICAL.

BY J. VAN BUREN, CLARKSVILLE, GA.

Thomas Meehan, Dear Sir: I see by the April number of the *Gardener's Monthly* that T. Carter, of Raleigh, N. C., says, the Equinately Apple is identical with Buckingham and Fall Queen. This is a mistake. Buckingham is a striped apple, while Equinately is never striped, but evenly shaded with dark red. Equinately is also far superior as a keeper and in flavor; to say it is identical with Fall Queen, is like saying such a man looks like John Smith; these Queens and Kings are about no names at all, or are made to fit a large variety of apples. I think it is also a mistake to say nurserymen have grown and fruited them side by side. They may have grown the trees but have not fruited them, for it is but 4 years since this variety was brought out, and we were the first nurserymen in the United States who cultivated it; we set a few grafts at that time in the limbs of large trees, which even have not fruited yet.

Four years since we got our dozen specimens of fruit from the only bearing trees known in N. C., and from which trees we have since that time propagated our stock.

Those whose trees produce fruit corresponding with Buckingham, have not got it true; and as the Equinately is a very popular and estimable variety, it need not be wondered at, should spurious varieties be sold under that name.

Berry, Wall, Sumerour, Nickajack and Howard, are all identical.

Our apple crop promises to be a very abundant one should subsequent frost not injure it. Peaches pretty well thinned out by the late cold and frost (of the 27th March); the same in relation to Pears.

IMPROVEMENTS IN NORTHERN NEW JERSEY.

BY WALTER ELDER.

I paid a visit last month to Belvidere, the County-town of Warren, New Jersey, and was agreeably surprised to see the many fine improvements that have been made of late years there. The Brainard Seminary, and dwelling-house of the owner and principal, Rev. James Addison Whitticar, is one of the finest improvements. The buildings are of striking beauty, and the grounds are tastefully laid out. They are

lined on three sides with arborvitæ hedges, and many evergreen trees are grouped over them. The grounds are several acres in extent, and comprise a very high eminence, which not only overlooks the town, but commands a view of ten miles over the surrounding country, which is a beautiful and highly cultivated district. The Schooly's mountains appear from the place like a gentle rise in the landscape; and the Delaware looks like a silver belt stretched along the valley.

I called at the noted seat of J. M. Baul, Esq., in Belvidere, and was sorry to find that the great Fall Pippin appletree, so noted for its size, the branches of which nearly overspread a square of the kitchen-garden, has gone; and I looked upon the stump with sad feelings, having as you know lived here many years ago, and often sat under its grateful shade.

PRUNING FRUIT TREES.

BY NOVICE.

May not the use of the pruning-knife, on fruit trees, be mainly dispensed with?

I have a few reflections to offer on this subject, the result of some reading and observation, and not a little dearly bought experience.

Let us take for example, a yearling Pear tree, as usually sent out from the nurseries; it consists, for the most part, of one long straight cane, from 2½ to 5 feet in height, and a few small, rudimentary side shoots, sometimes mere buds, from a few inches up to 1 or 2 feet from the ground. Generally we find the strongest of these laterals on *two sides only*, the effect of too close planting in the nursery rows. We have now to commence the frame-work of the future tree, and, according to the "directions in the books," we must cut down the leader one half or two-thirds, and shorten in the laterals "according to their strength," to induce the weaker buds to push, or the dormant eyes to break, and thus form the base of a symmetrical, well-balanced head. But *every cut is a wound and every wound leaves its scar*, which may or may not heal over, but is quite likely to prove a source of future weakness, deformity or disease, especially if a *stump* be left, to decay and cause an unsightly scar. Thus, at the very outset, we commit an outrage upon the young plant, we do gross violence to its nature, and, unless we possess the skill of Barry or Debreuil, we shall soon not only *dwarf* but *deform* it altogether. The young tree expends its full energies an entire season, in producing and maturing 2 to 3 feet of leader, and a corresponding amount of lateral branches, (on two sides mainly,) which are remorselessly cut away, at the spring or autumn pruning, as entirely superfluous. The uppermost bud pushes out, the second year, nearly at right angles to the main stem; and then shoots up parallel to,

but not in line with it; while the buds on the abscinded laterals start off at all sorts of angles, forming branches where, perhaps, they are not wanted, and which must be, in turn, reduced or removed at a subsequent pruning. After a second season's growth the leader is once more headed in, at a bud, (if such fortunately there be,) opposite the previous year's cut, so as to "bring the leader into line," and so of the laterals likewise. A continuance of this process will, in time, give us a main stem as crooked as a snake, and side branches fuller of elbows than a Chinese idol. We may, it is true, by the exercise of rare skill, obtain a tree of pyramidal or other desired *form*, but without a *single straight stem or branch* in its framework and whose *outline* has been obtained at the expense of *beauty of detail* and needless waste of energy on the part of the growing tree. I have, in my grounds, standard and dwarf trees of the Bartlett, Beurre Diel, and many other kinds, from the best nurseries in the country, and from 2 to 8 years old, which were all pruned "*secundum artem*," and are generally esteemed well-shaped trees, yet are so scarred and distorted, by the free use of the pruning-knife, as to enlist ones sympathy for the wanton surgery they have undergone.

Pruning is, at best, contrary to nature, and should be done, I think, at such times and in such manner, as to offer the least possible violence to the laws of vegetable life. I believe that by judicious, well timed pinching or summer stopping, by the removal of superfluous buds, the occasional insertion of a bud to fill a vacancy, and by bringing into place, by means of stakes, any straggling branches; we may obtain (in connection with well-timed root-pruning of too luxuriant trees) the highest possible result, leaving the pruning-knife to be used, as the surgeon does his scalpel, only to repair the effects of *accident or neglect*, or to correct a *natural deformity*.

But, to be entirely effective, this treatment should commence in the nursery rows and with the tree from the bud, pinching off the leader and stronger laterals once or more during the early part of the growing season, when they will continue their growth in the same direction as before; the wounds will heal without scars, and the sap, thus checked in its upward flow, will be concentrated where it is required, for the development and full maturity of the lower branches and fruit spurs. No useless wood is grown, to be cut off at the annual pruning; but we obtain straight, handsome branches that are a pleasure to the eye.

There are many kinds of trees, as the Rostiezer, Marie Louise, Beurré Diel, and other pears, and several of the peaches, plums, &c., of such straggling, tortuous growth as to tax to the utmost ones skill in the use of the knife to bring them into shape. Handsomely formed trees of these varieties, obtained by

knife pruning, are rare. Might they not be more easily and certainly obtained by the method above suggested?

We all know how very impatient of the knife are all the stone fruits,—how its distorts the branches of the plum, makes “brooms” of the cherry, and causes them all to “gum.” By the practice of *thumb and finger* pruning these evils may, in the main, be avoided, and the earliest possible fruitfulness attained, without any injury, but rather a benefit to the plant. Further, I firmly believe that trees thus treated at the outset, if grown with *sufficient space* in the nursery grounds and *lifted with moderate care*, may be safely transplanted without the inevitable amputations, &c., which we are always advised by writers on the subject, but may be safely left to the annual summer stopping above suggested.

Much remains to be said, which perhaps may serve for a future article. A desire to provoke inquiry and experiment during the coming season and to elicit the opinions and experience of those skilled in fruit culture has been the leading motive of this communication from a mere

NOVICE.

[Though our correspondent modestly chooses “*Novice*” as his *nom de plume*, we may be pardoned for saying that we reckon few more successful horticulturists amongst our valued contributors than he, and we ask for his present communication the attention of all practical men. Like some other articles that have enriched our pages, it may by some be considered too radical. If even it should prove so on careful trial, we are well assured that, as in the other cases alluded to, very much good will grow out of it.

In “dropping into” our friends model establishments some months ago, we noted that he had conceived what to us was an original idea, that of having an open tank carried around his vinery filled with water, in order to furnish an abundant supply of atmospheric moisture. The vines then were models of health and beauty. We should be pleased to hear from him as to the result so far.—ED.]

INARCHING WILD GRAPES.

BY J. L. S., WASHINGTON, D. C.

Now that Grape culture is attracting so much attention, an article in your *Monthly* on layering the wild vines, and engrafting the choice new American grapes on wild vines, along the fences and woodsides, thus securing in a single season strong vines and a heavy crop next year, would be a good idea. A successful cultivator recommends the last of May for this section, when the vines will cease to bleed. This engrafting, budding and inarching may be continued during the summer and autumn. I have had splendid specimens of pears and other fruits from late

summer and autumn grafting. Fruit-bearing shoots may be taken from feeble vines or trees, and put on strong ones, with a certainty of having fine specimens of fruit next season.

BUDDED ROSES.

BY BUD-HIST, MASS.

Mr. Editor: A sufferer from budded roses, and an ardent lover of this queen of flowers, begs his brother amateurs not to be influenced by Mr. Strong's strong recommendations of Roses budded on Manetti stocks, nor to have any thing to do with any budded roses. They are a treacherous and troublesome nuisance, and must be watched incessantly, stealing more of the amateur's time and care than they are fairly entitled to. They are the worst of suckers; and he who grows them, will be well *sucked in*. Have nothing to do with them, is my advice; turn away from them and pass on the other side.

For Roses, the safest by all means are those on their own roots; giving you far less anxiety and work and no disappointment. The budded ones may do for the professional gardener; but for amateurs they are not the thing.

[The above is from one of our most practical and reliable florists, and, as such, entitled to respect. There are, however, two sides to every question. Good roses—we may say first-rate roses—can be grown on their roots, and are not troublesome on account of suckers. It is the easiest way of growing roses, undoubtedly. The other side claim, that if there is more labor, there is also finer Roses, and hardier plants attending the budding system; and also, that the suckering only continues until the bud forms a head of its own, strong enough to draw up all the sap the roots supply—as in the case of a budded fruit-tree.

The question seems to us to amount to this. One party is satisfied to have good roses, with little labor; the other is willing to have more trouble and finer flowers. Each reader can choose for himself.—ED.]

HORTICULTURAL CONSERVATISM.

BY T. W. C., WESTERLY, R. I.

H., of New York, heads an article at page 101 of your excellent *Monthly*, with the above title. Although there are standing rules in gardening, every person is at liberty to experiment and deviate from these rules when he pleases; but it is difficult to unlearn a practice that is almost universally adopted and thought to be necessary, and so there is some excuse for our conservatism. Mr. H.'s remarks on “Gardening with us” is, perhaps, all right. His remarks on the tillage of “market gardens around London,” may be as unquestionable; but when he refers to the “practice of crocking pots preparatory to the planting or shifting of soft-wooded plants,” as

"nonsensical formula," I rather feel proud of the title of conservative.

I think good drainage always necessary for Fuchsias, Dahlias, Chrysanthemums, Verbenas and other "bedding-out" plants, may be of secondary importance; still every flower-pot should be more or less provided with drainage before inserting the plant. However small the pot may be, the hole in the bottom, should at the least be covered with a piece of "pot-sherd," or some equivalent. I know of nothing so good as broken charcoal. It is an absorber of the gases; a sweetener of the soil; and a store of sustenance, as well as a drainage to the plant. I earnestly recommend the use of it to all who have not abandoned the practice of crocking. One single load of charcoal will furnish a small piece for the bottom of a hundred thousand small pots; and one large pot could contain a thousand little pieces, to be dropped into the bottom of small pots when planting.

Crocking of small pots is necessary, not only as drainage, and for the circulation of air, but it also helps to keep the roots of the plant within the pot. Many I know have seen the bad effects of non-crocking in "Florists establishments" where the small "bedding-out stuff" is placed in "pits," on earth shelves, to keep them moist and save watering. They may grow well, and look well when undisturbed, but when removed, the purchaser finds half the roots outside the bottom of the pot's, and before he reaches home the bright, healthy looking gem of the Greenhouse, has dwindled like a cut beet-leaf under the sun, and the roots must be stripped, or the pot broke before the plant can be inserted in the flower-bed. This causes a check on the plant, a check on the hopes of the purchaser, and cannot reasonably enhance the character of the establishment where such plants were purchased.

I do not include all Floral establishments as practicing this method of shelving small pots on earth. Nor do I know whether your correspondent places his pots on clean shelves of wood, or upon what they rest; but I think there is a great chance of non-crocked pots having the hole in the bottom clogged up, or the earth will wash through it. I will acknowledge that indiscrimination is a great fault with a plant grower; and he that uses all plants alike is unfit for any thing but gathering onions. Hoping that the advocating of my opinions will give no offence, I remain yours, &c.

[In underdraining land, it was at one time thought necessary to keep the tile a short distance from each other, until it was found that the water percolated as well through the tile itself into the drain, and the crevices were abandoned as unnecessary. We understand H. to take somewhat similar ground.

We are not prepared ourselves to abandon the

crocking of pots in the finer branches of culture, though we have abandoned it with things in small pots, without any apparent injury; but we are pleased to see the subject inquired into, believing that no horticultural topic is so time honored as not to be improved by an occasional ventilation.—Ed.]

SPERGULA PILIFERA AND SOME OTHER NEW PLANTS.

BY H. W. SARGENT, ESQ., WODENETHE, N. Y.

Believing some of your readers would feel interested to know the chances there are in this country of establishing this little Alpine plant, which is just now attracting so much attention in England, I am induced to give them the little experience I have had in it, promising a much fuller account of it another year.

I imported a quantity of the seed from Messrs. Henderson, of London, last Spring, and sowed it in a cold frame on the Northern side of a high wall. It came up very well and regularly, but in spite of its Northern exposure, with additional shading in the early part of the day, it generally seemed to disappear, and I saved very little of it. It was so excessively delicate and sensitive that our warm weather in June destroyed it. Subsequently, in the latter part of August and early in September, my gardener sowed it again; but this time in thumb pots, which were put close together in several frames, shaded from the noon sun, and protected from cool nights, until it came up thick as before, and filled the whole pot, when it was gradually hardened off; until, by the middle of October, the entire surface of some five hundred pots were covered with a thick green mat or sod.

About the beginning or middle of November, I planted out about fifty pots or sods in different situations, and exposures. Some of them, in a very low spot, where they were part of the winter under water, occasionally frozen entirely over. Sometimes, when the water subsided, the plants or sods, about two inches in diameter, were fully exposed above the water in a soft oozy mud, to the alternating influence of hot sun and chilly winds; and yet every sod preserved its character and color, and I am not conscious that a single plant, of the many composing each sod, has either perished or suffered.

This has proved to my mind quite satisfactorily that our winters will not kill it; for these plants were put out purposely under every disadvantage, so late in the autumn as to prevent any chance of the roots taking hold of the ground.

It now remains to be seen if it will prove equally satisfactory in our intense summer heat. I think it merits all that has been said of its beauty and color, in England; and if it will stand our summer as well

as our winters, it will indeed be a great acquisition.

I have this spring planted about five hundred sods of it, 4 to 6 inches apart each way, and hope before long to see a piece of verdure heretofore unknown in this part of the country.

While upon this subject, your readers will likewise be glad to know that the three new and superb Berberis—*Japonica*, *Bealii* and *intermedia*—have resisted the severity of the past winter with the most complete success. As severe and bad as the winter has been, they are perfectly untouched, and have proved much hardier than the common *Berberis Mahonia*, which alters and always gets browned.

Abies Kämpferii has also proved perfectly hardy, quite as much so apparently, as the common Larch, and I find it is about as far advanced as this tree. It has unfortunately become a *Larix* instead of an *Abies*; but during the Summer months it is none the worse for this. *Larix Griffithii* seems a pretty thing, and I have no doubt will prove quite as hardy.

I find I have the *Abies Williamsonii* figured in your March number; but under the name of *A. Mertensiana* (Californian Hemlock), my specimen is about 6 feet high and seems quite as hardy as a Hemlock, which, indeed, it resembles so closely as to be difficult to distinguish.

The new *Arbor vitæ, glauca Craigiuna, gigantea* (the English *gigantea*), and *Meldensii*, have all stood this winter perfectly on the north of a wood. *Meldensis*, though hardly an *arbor vitæ*, is very interesting, from the charming purple color it assumes in winter.

Cupressus Lawsoniana, on the north of a wood, is perfectly untouched, and the greatest acquisition.

Wellingtonia is somewhat browned.

Of the older favorites, *Deodara robusta* and *Cryptomeria Lobbi* both stand well, when the older *Deodara* and *Cryptomeria Japonica*, have suffered a little; but even this last tree apparently does well enough unprotected; strange to say, it seems impatient of any covering, and quite willing and able to get through the winter without any protection.

The *Golden Yew* is a great acquisition to some of our hardy trees, perfectly untouched in our bitterest weather, when the common English suffers in wood and color.

Abies Douglassii, *Pinsapo*, *Cephalonica*, *pichta*, and especially *Nordmanniana*, are all valuable and hardy acquisitions to our Firs; while *Pinus Benthamiana*, *Beardsleyii*, *Jeffreyii*, *Lambertiana*, *Sabiniana*, *Nivea*, *Ponderosa*, *Laricio*, *Cembra*, &c., are great gains to lovers of this class.

The male *Cephalotaxus* seems perfectly hardy, while the female gets a little misused. *C. pedunculata* and *durpacea*, stand as well as the Irish Yew.

The newer Yews *monstrosa* and *microphylla* are quite hardy.

The great acquisition, however, of this winter with me has been the three new Berberis, *Cupressus Lawsoniana*, *Abies pyramidalis* and some few others, above mentioned.

[Mr. Sargent's notes on *Spergula pilifera* are particularly valuable just now, when there is so much inquiry about it. Mr. S.'s motto seem to be "to try." Such men are real benefactors to the community. His next summer's experience will be anxiously looked for.

It is gratifying to learn that Mr. S. has the *Abies Williamsonii* growing, and so fine a specimen too. "Hardy, and with the habit of the Hemlock," will make a beautiful association with the fine cones we have figured. We have not evidently called attention to the confusion with *A. Mertensiana* any too soon. Mr. Murray, of Edinburg, has probably had something to do with the confusion of names in our Coniferae. His *Pinus Beardsleyi* will probably turn out to be but *P. ponderosa*. Our friends cannot be too careful of the names they get with their plants from abroad.—Ed.]

FATAL EFFECTS OF THE PAST WINTER.

BY PROF. C. G. PAGE, WASHINGTON, D. C.

My fears, expressed in February last, have been more than realized here, in the destruction of shrubbery and other plants. By way of record, I notice the following results:—All Tea, Noisette and Bourbon Roses, in the open ground were killed down to the snow level, which, at the time, was from three to four inches deep. Many Remontants and other Roses considered as entirely hardy, were also similarly injured. *Spiræa Reevesii* and *Spiræa prunifolia* lost all their bloom. *Forsythia viridissima* no bloom except from branches on the ground. *Wiegelia rosea* much injured. *Euonymus* generally killed, root and branch. Tree and dwarf box extensively injured. Chinese *Arbor vitæ* in many situations killed to the snow level. Tree *Pæonies* killed to the snow line; never before known here. *Corchorus Japonica*—Japan Rose—killed to the snow line; never before noticed here. Honeysuckles generally killed to the snow level. Wall-flowers generally killed. Flower buds of *Pawlonia imperialis* all killed. The worst we have to record is the entire destruction of the flower buds of the Peach, Nectarine, Almond and Apricot, except in a few instances on high ground; never before noticed here.

The above are examples under my own observation, and it would be interesting to hear from other parts of the country, in respect to the above hardy plants, and any others of note or common interest. On my grounds the grape vines *Isabella*, *Catawba*, *Diana*

and Rebecca, bearing vines, were not injured. These are the only varieties I have in bearing. Blackberries, Raspberries, Gooseberries, Currants, and Strawberries, not injured; and for our own consolation, the prospect of small fruits is unusually good, which is somewhat remarkable. Apples, Cherries, Plums and Dwarf Pears promise well, as usual.

HINTS ABOUT GRAFTING.

BY A. MATTISON, PADUCAH, KY.

In Mr. Comstock's application of wax in grafting, (see page 109,) I think his success is good. Such hints are of great benefit to the trade: lessening labor and leading to success. I formerly practised his method myself, but abandoned it as not the quickest or the best. By his mode, if the graft is not well fitted, it will sometimes get injured by the wax getting between it and the stock. I think it is better, in strong cleft root grafts, not to tie or wax at all. They will do just as well and better than if tied or waxed; slender root grafts always need some tie or binding. I think it of advantage, whether the graft be tied or not, to puddle them before planting, in a mud made of good soil and water. Every grafter knows that, in the old way of stock grafting in the nursery, no tie or any thing was needed; nothing but the soil drawn up about the graft, leaving one or two buds out. That was always done late, to avoid the lifting by the frost.

TRENCHING.

BY DR. J. K. E., DOWNINGTOWN, PA.

In the official, as well as your own, report of the proceedings of the Fruit Growers' Society, I am made to attribute the good effects of trenching to capillary attraction alone. With your permission, my views will be given more at large.

It will be seen that capillary attraction plays the least important part; indeed, it is questionable whether earth is ever too compact to prevent it.

The best way to make a point clear, is by illustration; therefore, let any one remove a solid foot of the most compact earth he can find,—so compact that if two gallons of water be poured slowly thereon it would not penetrate one inch, and requiring a pick or post-bar to accomplish. Replace said earth, compressing it with a heavy stamper, and it will occupy less space than before its removal. Now pour two gallons of water upon it, and it will be almost instantly absorbed. Before applying the water it could have been easily penetrated by a shovel or a spade, notwithstanding the earth occupied less space than before removal, consequently more compact or specifically heavier. The inference is, that trenching has effected a new arrangement of particles, which admits water freely, and consequently air; therefore

superfluous water, during protracted wet weather, passes through freely; and during a long continued drought, the air, having free access, penetrates until it meets a cool surface, upon which its watery vapor is condensed. Hence trenched ground suffers less in either dry or wet weather, than if in its original condition.

How long does this new arrangement of particles continue? Does the earth, once removed, ever assume its original form?

The mooted point, whether the lowest stratum should go on top or remain below, must depend upon its character. Complete comminution is of the greatest importance.

REMARKS ON THE GENUS TRITOMA.

BY DANIEL BARKER, HARTFORD, CONN.

Among the many plants now cultivated in vases and ornamental pots for the decoration of the lawn and flower garden, the greenhouse, conservatory, &c., none are more useful than the "*Triloma uvaria*," and its many beautiful varieties; and when more disseminated in this country, and their merits become fully appreciated, they must become universal favorites with every lover of fine showy plants.

Although easy to cultivate—so much so that any one may grow them, yet to have them in perfection requires some management and care bestowed upon them—I will now offer a few remarks upon our system of management, which may be acceptable to some of the readers of the *Gardener's Monthly*, particularly to those who, like myself, are admirers of this beautiful tribe of plants, (HEMEROCALLIDÆ).

As specimen plants, *Trilomas* are, if well grown, deservedly admired; while, for the ornamental vase upon the lawn, &c., they are among the most handsome half-hardy plants (*none of them are hardy north of New York*) grown, and in this respect are entitled to precedence over many others.

Any time from the commencement of April to May, procure some of the best and strongest plants, and plant in vases or garden pots, not less than sixteen inches over, in a compost of well decomposed leaf mould and loam, using a little rough wash sand in combination with both; picking out all worms and insects that are to be found in it. Spread about one inch of small lumps of charcoal over the bottom to allow of free drainage, covering it over with a layer of about half-an-inch of well decomposed cow-dung. When planted, place them in a frame or greenhouse, where the heat ranges from 50° to 60°, supplying them rather liberally with water, being careful that they are never saturated. *Stagnant water at the roots will destroy them.* Admit air freely whenever circumstances permit, keeping the plants near the glass, in order to prevent their being drawn up weak, as well

as to keep them strong, vigorous and healthy.

By the first week in June they may be removed from the greenhouse or frame, and placed upon the lawn, where they should remain until fall, keeping them well supplied with water. When in flower they are removed to the greenhouse, conservatory or plant cabinet, where they form for many weeks objects of the greatest beauty and magnificence. Soon as the flowering season is over, withhold water gradually, and keep them partially dry during the winter months at the coolest part of the house, or where no greenhouse can be had, a light part of a cellar, away from frost and the furnace until the ensuing Spring, when they are repotted and treated as before.

TRITOMA UVARIA, or *Great Tritoma*, was introduced from the Cape of Good Hope into Europe in the year 1707. The flower scapes are about 2 to 2½ feet high, with flowers of an orange color, slightly tipped with green; flower from September to November.

TRITOMA MEDIA, *Lesser Tritoma*.—From the same country as the former, introduced into Europe in 1789. This is much more slender in growth than *uvaria*, and much more susceptible of cold. The flower-stems attain a height of from one to two feet, with scarlet orange colored flowers; time of flowering from December to April. For the decoration of the greenhouse in mid-winter, this variety is most valuable.

TRITOMA PUMILA, *Least Tritoma*.—A small but beautiful species, introduced from Africa to Europe during the year 1774. The flower-scapes seldom attain more than 18 inches in height, of a fine orange color; flowering from September to December.

TRITOMA UVARIA GLAUCESENS, *Glaucous Tritoma*.—This is without doubt the finest variety in cultivation, being the same which is so extensively planted in the Royal and other gardens of Europe. The flower-scapes of this magnificent variety frequently attain a height of from 4 to 5 feet in height, the flowers upon which are densely clustered, of highly colored orange scarlet flowers, which remain in perfection from September to October. In part 5 of the "*Illustrated Bouquet*," is a finely executed colored plate of this charming plant.

TRITOMA BURCHELLII, *Mr. Burchell's Tritoma*.—Said to have been introduced by the gentleman whose name it bears. Be this as it may, it is much inferior to any of the varieties of *uvaria* which have come under our notice; the period of its flowering is from July to August.

TRITOMA ROOPERI.—This is described in the "*Illustrated Bouquet*," as a very fine summer-blooming species, being of very vigorous growth, with elongated scapes of bright colored flowers; peculiar from having the stamens enclosed within the tubes.

TRITOMA UVARIA SEROTINA.—One of the most

beautiful of the entire group. The flowers are borne on scapes from 3 to 4 feet high, with long racemes of bright orange colored flowers; season of flowering from October till the end of November.

The above list contains all the best species and varieties of this beautiful genus, and when in full bloom, with their rich and varied tints of orange and scarlet, they cannot fail in affording a pure source of pleasure and enjoyment to the admirer of beautiful plants, upon which they cannot gaze without being thankful to that beneficent Being who has strewn our pathway of life with such gems.

God might have made enough—enough
For every want of ours—
For luxury, medicine and toil—
And yet have made no flowers."

GRAFTING TWINE.

BY R. W. HUNT, GALESBURG, ILL.

Mr. Editor: We notice in the April number of the *Monthly*, an article from A. W. Comstock, of Burlington, Iowa, in relation to grafting wax, in which he takes A. Mattison to task for his sayings in regard thereto, in an article in the February number, written by him, (Mr. Mattison); and as they both use the word *fogy*, we conclude it is not a copyright expression, and venture its use, and call both their methods old "*fogy*," as regards root-grafting.

Not willing to let it appear upon your records that the West—the Great West—is willing to stop there, and take it for granted that the method by them described, although a step in the advance, is the "*summum bonum*" in that direction; but believing our own process, as practised by us and several to whom we have communicated it, as a step still further towards perfection, and not wishing to keep secrets from our brother Nurserymen, we propose to present it in the following manner, hoping that some may be induced to try it, and others to furnish something still better. As to the cost, we have compared it with the warm wax process, and corn husk, waxed paper and cloth, and by actual experiment, find that \$1 will furnish the material ready for use, sufficient for 100,000 root grafts, and the time in using bears no comparison. We herewith enclose a piece ready for use, which has lain about since this time last year, and will not therefore stick as well as if fresh. Take a skein of common cotton yarn or warp, wind into a ball, take 3 pounds rosin, 1¼ pounds lard, 1½ pounds beeswax, melt together in a kettle, and boil your ball of cotton until it sinks. After which, take it out, let it drain over the kettle till nearly cool and rewind. When it is ready for use, wind as loose as you can the second time; and use as follows:—take the graft by the root in the right hand, take the string in the left hand, place the end on the lower end of the

lap of the graft, place the forefinger of the right hand upon the end of the string; point the string towards the bottom end of the root, crossing the string at the first turn, then continue rolling the root, and wind the string three or four times around, leaving it at the top of the root, and with the thumb nail of the left hand, snap the string off close. The wax will hold the string to its place without tying, and, although you may pack your grafts in either dirt or sawdust, it will not rot off until after your grafts have been set in the ground. As the season advances it will gradually give way, and does not interfere with the growth of the graft. I believe this will be new to all who did not read it in the *Prairie Farmer*, in an article written by me, and hope it may prove as advantageous to others of the *Monthly* as it has to us.

[The specimen sent was very satisfactory. Where tying is necessary, nothing could be better. Is the beeswax of any service? Rosin and lard boiled together we think is quite sufficient.—Ed.]

BURNING FLUID A REMEDY FOR MEALY BUG.

BY A. MARSHALL, WEST CHESTER, PA.

Some two months ago I discovered that a Lemon tree in my Grapehouse, was somewhat affected with the *Mealy Bug*. I thought of Dr. Uhler and the aloes. I procured the drug, and made a strong solution; applied no other water to the roots for a week or ten days, but without the slightest effect. I then went to work and cleaned them off by hand, in the usual way.

A few days ago I discovered that my old acquaintance had reproduced a young army on the same tree. I thought of the alcohol, but not having any at hand, I concluded to try some burning-fluid, (which is a mixture of alcohol and spirits of turpentine). This I applied with a camel's hair pencil to the little cottony nests, and it changed the color immediately. This remedy was effectual wherever applied. While hunting the nests in crotches in various parts of the tree, I discovered that several of my mealy friends seemed to have very urgent business from home, travelling over the branches with great rapidity. A touch of the pencil, with a drop of fluid, changed the color and annihilated them at once. Did the odor of the turpentine stimulate this disposition to locomotion, with a view of getting beyond its influence?

[Some years ago we tried Spirits of Turpentine diluted with water, to remove mealy bug from a collection of Cacti, and with excellent results.

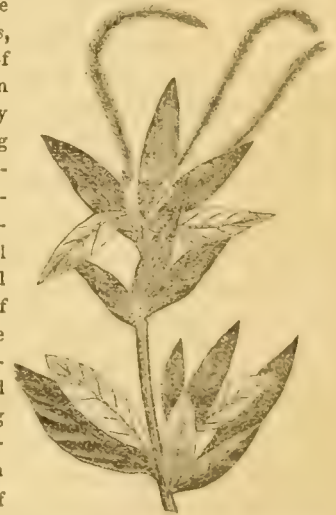
By the occasional use of warm water, we have entirely eradicated the mealy bug from our collection; and it is now so long since we have seen one that we almost forget what they look like. We prefer hot water to turpentine or any thing.—Ed.]

NATIONAL BOTANIC GARDEN AND CONSERVATORY, WASHINGTON, D. C.

BY K. R. D.

Having recently paid a hurried visit to this establishment, and supposing that a brief description of it may not be uninteresting to your readers, I hand you a few notes or memoranda in regard to it, regretting that my other engagements did not admit of a more careful examination.

In the erection of the two new wings of the Patent office it was found necessary to remove the conservatory from the rear of that institution to the extensive grounds at the foot of the hill, on which stands the Capitol. The grounds are neatly enclosed, and are now being planted with a great variety of hardy trees and shrubs, mostly indigenous, and many of them contributed by government expeditions. Among them, the excellent and polite superintendent, Wm. R. Smith, pointed out to me an evergreen small tree or shrub, received a few years since from the Rocky Mountains, viz.: the *Cercocarpus ledifolius*, or Feather Bush of Nuttall. It has been found to be perfectly hardy here, having stood uninjured several remarkably severe winters. I enclose you a small twig, which will give you an idea of its appearance. The leaves are lanceolate, about one and a quarter inches long and about three-eighths of an inch wide, smooth and of

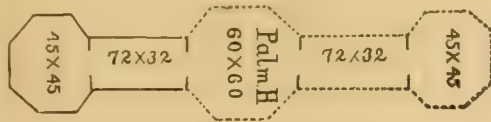


a dark rich green on the upper surface, and beneath softly villous, with brownish hairs. In its general appearance it somewhat resembles the olive tree. The flowers are small and white, produced at the extremities of the twigs, and closely resembles feathers, whence its name. Mr. Smith thinks this will prove to be a valuable acquisition to our small stock of hardy evergreen shrubs.

Through the centre of the grounds extends a broad avenue, of specimen trees, planted in pairs, which in time will be a very interesting feature.

After taking a hasty look at the grounds, I entered the plant houses, which at present consists of an octagonal conservatory 45 by 55 feet, and a double-pitch house adjoining, 72 by 32 feet; also a range of brick propagating pits, and two large lean-to buildings, one of them devoted to the culture of grape vines.

I enclose a ground plan of the principal houses; those in black lines having been already erected, while those in dotted lines are to be erected hereafter.



The houses are of an ornamental character, in the Gothic style, but at the same time well adapted to the growth of plants. They were designed by Mr. Renwick, the architect of the Smithsonian Institute. The first house you enter is the octagonal house, in the centre of which is a group of very large specimen plants, among which I noticed the *Zamia horrida* or Cafer Bread-tree; *Araucaria Braziliensis* and *excelsa*; *Phoenix dactylifera* or Date Palm, &c. The latter, I was informed, had been grown in the garden of a gentleman in Georgia, with but slight protection; and that it will be tested the coming winter without any protection at all. They require ten years in their native country to arrive at maturity, after which they go on fruiting for thousands of years, bearing from one to three hundred weight. The plant is dioecious or unisexual, requiring a male and female plant to be planted together to ensure fruitfulness.

My time and space will allow me to notice but few of the many interesting plants with which these houses are crowded; suffice it to say, that here can be found many plants not to be found in the most recherché collections; particularly Plants of Commerce.

Passing from the octagonal into the rectangular house, which is kept considerably warmer, I found a large variety of tropical plants, orchids, palms, bananas, ferns, pitcher plants, &c. Of the latter, two noble specimens of the *Nepenthes distillatoria*, male and female, covered some hundreds of square feet of wall. Mr. Smith informs me that the female plant matures a large quantity of seed every year, from which he raises many plants. I afterwards saw in the propagating department, several pans of seedlings, with their miniature pitchers, of a size to suit Queen Mab, already developed. I cannot forbear also to notice two splendid specimens of those very curious and beautiful parasitical or epiphytal ferns, the *Platyce-rium grande*; they were each at least eighteen inches in diameter, growing on large pieces of two inch ash plank. The palms and bananas in this house have already reached the glass, and the process of beheading will soon have to be resorted to. Mr. Smith is praying for an appropriation for his new Palm House, and I hope he will get it this session. He certainly deserves one. In passing by the plant called *Dieffenbachia seguina picta*, a kind of poisonous cane, the

juice of which is used by the savages to poison their arrows, and which is also said to possess the singular property of depriving one of the power of speaking if any of the juice is imbibed, Mr. Smith told some of the M. C's., jocularly, that, unless they shortened their speeches, he would have to administer a dose to them all around; a proceeding which would, doubtless, meet with the hearty approval of all their constituents.

The propagating pits, some six or eight in number, are built of brick, side by side, and double-pitch roof. They are all heated by one saddle boiler, and are convenient and well-adapted to the purpose for which they were intended. I was gratified in passing through the houses, to meet an old veteran florist and botanist from your city, Mr. Bissett, whose long experience and correct judgment, is no doubt of great service here. I must not omit to notice, with hearty commendation, the fact that all the plants, in doors as well as out, are distinctly marked with their botanical as well as common names. The plants in the houses were generally in excellent health and free from scale, mealy bug, &c., a fact which Mr. Smith partly attributes to the coke from the gas works, with which the whole floor of the houses, under the tubs, boxes, pots and paths, is covered; this hint is at least worthy of experiment.

I regret exceedingly that my time will not allow me to give you a more full and satisfactory description of this interesting collection; suffice it to say, that Mr. Smith has accomplished wonders with the small amount doled out so reluctantly to him by our matter of fact Congress. When will the time arrive that we shall see a Kew grow out of these small beginnings?

After visiting this establishment, I had intended looking in at the houses where the Tea plants sent home by Mr. Fortune, are kept; but on inquiry found they were under the care of the Agricultural Department of the Patent Office, and as it was some distance off, and as I am not at all sanguine as to the success of the undertaking, I did not see them.

I then went through the conservatory attached to the President's house. It is immediately adjoining the house and communicates with it. It consists of a noble double-pitch house, about 150 by 35 feet, filled mostly with with hard-wooded greenhouse plants, Camellias, Azaleas, Oranges, Lemons, Acacias, &c., among which were many fine specimens. At one side of this is a hothouse, with a tank in the centre.

Both these houses contain many very valuable specimens; but, I regret to say, that at the time of my visit, they were in wretched order. I do not know the name even of the gardener, but candor compels me to say that the condition of these houses was either a disgrace to him, or to the nation, in not pro-

viding him with sufficient help to keep them in order. Dirt and disorder, decayed leaves, under potted half starved plants, met your view at every turn. Some shrubby plants had been, for want of pruning, allowed to grow as trailers; and the aquarium was filled with dirty, green, stagnant water, in the midst of which floated two leaves of an unhappy aquatic, which you would have to be informed was the peerless *Victoria*.

I also called in a few minutes to see the houses of W. W. Corcoran, Esq. They are quite ornamental, being curvilinear lean-to houses, the centre part being a hemisphere and filled with fine large specimen plants. One wing is used as a forcing vinery and orchard house, in which a fine crop of grapes and peaches were maturing. The peaches were in 12 inch pots, and the successful manner in which the crop had been matured at this early season, and in a house much shaded by vines, reflects much credit on the gardener, Mr. Spence.

I regretted much that I had not time to visit some of the commercial establishments, for which Washington has been celebrated. Please excuse these rambling notes as I have not the time to read them over.

DELAWARE GRAPE.

BY A NEW YORK FRUIT GROWER.

There seems to be diverse opinions entertained in various sections in relation to the origin and adaptation of the *Delaware* to the garden and vineyard. Some persons claim that it is of indigenous origin, and others, with equal pertinacity, declare it to be an *exotic*. Now, in my humble opinion, all this amounts to but little. All the fruit-grower wants to know about it is, is it hardy, a good grower and productive, and not subject to mildew? In some quarters it seems to afford good satisfaction, and in others it seems to be a failure. With me it mildews badly, and I greatly fear it will never prove profitable to grow for market purposes, as the vines are extremely hard to rear and get in a bearing condition.

Wm. R. Prince, it appears, has spared no expense or trouble to learn its history, and is unequivocally of the opinion that it is a foreign grape, and has every specific attribute of the *vilis vinifera*, and possesses none whatever indicative of indigenous origin.

There are some localities where some varieties of foreign grapes thrive and produce good fruit for many years, and that too without any extra care, other than careful persons give to native grapes; but in such cases I never knew of any large collection of vines; only a few specimens, and they were always planted in some sheltered place, and protected in winter.

The oldest bearing Delaware vine in the County of Columbia, was winter-killed last winter, (1858-9,) which would seem to indicate that it is not over and

above hardy. It certainly is a grape of very great excellence, and in every section where it will thrive, it should be planted in the garden if nowhere else.

JAPAN PLUM.

BY W. R. PRINCE, FLUSHING, L. I., N. Y.

This is *Eriobotrya japonica*, formerly named *Mespilus japonica*, and also bears the name of *Loquat*. Your editorial suggestion is therefore correct.

WATERING TRANSPLANTED TREES.

BY E. FRYER, DAYTON, OHIO.

Some of our most intelligent Horticultural writers recommend "not to water trees after transplanting." I think the practice without qualification is untenable on scientific grounds.

Leibig says "water evaporates from the surface of the leaves of plants, and the quantity evaporated is in direct proportion to the extent of the surface." Now, if water is continually evaporating, why not water an evergreen after transplanting, where the natural supply is for a time cut off by that process?

A deciduous tree, when transplanted, generally has no leaves; but in this case, it must be remembered that, the juices of the plant are evaporated throughout the whole extent of the surface of the bark, and this drying process is considerably increased by the dry North-western winds which commonly prevail during our Spring planting time, rendering the practice of artificial watering even more necessary here than in most of the countries of Europe.

There is of course a right and a wrong way of applying water. Experience has shown that water poured round a tree, whether in small or large quantities, is a positive injury; if the surface is not pointed (broken or pulverized,) it becomes baked so that no water whatever can reach the roots except by capillary attraction; and, in dry weather the surface cracks, leaving great fissures, which reach to the roots, retarding growth and causing premature decay, and sometimes the death of the plant; while, on the other hand, if a sufficient quantity of water is applied, a thorough soaking of the soil, as far as the roots extend, immediately after planting, and the watered surface mulched, or in default of mulching, pointed where the soil is in proper condition to do so; the plant needs no more, nature afterwards furnishing all that is necessary.

In dry situations, or during the prevalence of a long continued drought, it is sometimes necessary to water choice evergreens that are even long established in the soil. With these the best way is to break the surface with a hoe, and pour on sufficient water to wet the soil thoroughly; and when this has soaked through, to cover the surface so watered with

dry earth, leaves, grass or any thing that is nearest to hand, this will be found sufficient for several weeks of continued dry weather.

[We are always pleased to receive Mr. Fryer's communications. Short, pithy and to the point, they at the same time bear the imprint of a well balanced mind, on whose judgment one can rely. The present article will be of much service to amateurs this season.—Ed.]

NOTES FROM THE SOUTH.

BY THOMAS AFFLECK, WASHINGTON, MISS.

SOUTHERN NURSERIES, Adams Co., Miss., April 4th, 1860.

Thomas Meehan, Dear Sir: Almost ever since the receipt of the first number of your excellent and spicy *Monthly*, I promised myself, and partly promised you, to give you some notes on that vexed question, the *Cultivation of the Pear, in its dwarfed form on Quince*. But circumstances of one kind or another have hitherto prevented; chiefly, however, the gradual removal of such a concern as mine to the new State of Texas; but partly, too, the fact that it would be impossible to avoid the frequent use of *I, me and mine*! To be avoided when practicable. And yet, how else is individual experience to be given? Who cares to read an anonymous article, when compared to a similar, or perhaps less valuable communication over the true signature of the writer?

Well. It is now some eighteen years since I *began to begin* once more, and for the fourth time in these United States, to establish orchards of fruits; enough, at least, for experiment and home use.

This, as you are aware, is one of the oldest settled portions of the Southwest, West or South. First, as occupiers of the land after the native Indians—the Natchez Indians—then the French, after them the Spaniards, and lastly by the English or Americans.

The Natchez Indians, who, too, were interlopers, evidently cultivated fruits around their villages; as native Crab Apples, of extraordinary size, the most delicious varieties of that excellent fruit, the Chickasaw Plum, &c., are found there to this day.

The French left behind them, it is believed, sundry varieties of Apples and of Pears; some of the latter still existing, thrifty and productive, I am well assured, at several points of the lowlands of Louisiana—the Mississippi coast, as it is termed—worked upon the native swamp white or Hawthorn. The only fruit I have seen, stated to be from those trees, was quite inferior.

The Spaniards left behind them, too, sundry Apples and Grapes; of the latter, the so-called Jaques (Longworth's Cigar-box), is the only one of any value which was, probably, derived from that source. The *Celeste* Fig, too, we owe, most probably to the Spaniards—the most delicious, hardy and productive

of all its tribe; and which I have been unable to identify with any one of some 60 and odd sorts I have grown here. But, alas! the terrible freeze of last November, has killed almost to the ground, trees with stems eighteen inches or more in diameter! I bewail one such tree, which alone, has supplied my family bountifully with its exquisite fruit, for many years!

Many of the early American settlers introduced fruit trees of many kinds; chiefly seedlings or suckers, from favorite trees in the gardens or neighborhoods they left. Peaches were grown to a vast extent, at an early day; so as to support large distilleries, engaged in the manufacture of that favorite drink, "Old Peach!" Much of the fruit was, no doubt, fine; and crops were much surer than at the present day.

A desire for something better, arising from the perusal of books on the subject, led to the importation from the North and from Europe, of varied and noted varieties of fruits. Nurserymen from the North and West bought large stocks of trees here, and sold them freely. But few of these original trees did any good; making no growth, but gradually dwindled and died. Some few succeeded, and are still thrifty and productive; but these form the exception. Even the Peach—though some of the imported trees, of choice varieties, producing fruit, satisfied their growers that something infinitely superior to their otherwise productive seedlings did actually exist—began to fail; partly because those imported trees were becoming widely planted and largely relied upon; but also from the fact that the *Ægeria* and the *Yellows* had been introduced. The former is still a great pest; of the latter I have not seen a case in some ten years.

When I first settled here, I could learn of but two nurseries, and these small ones, any where South of Tennessee,—those of Hatch, and of Lambert of Vicksburg. Several gentlemen around Natchez and this village were successful growers of fruit; and those were most so *who grew their own trees*. Noting this fact, I commenced the propagation of my own young stock, intended altogether for amateur experiments; importing largely of the best varieties, from Europe and the North. About the same time, the late Dr. Jenkins of Elgin, a neighbor and friend, began a series of similar experiments, in which we aided each other no little. I soon found that, *to grow to any extent*, and especially Apples and Pears, we must *propagate and grow, from the root up*, our own trees.

When I first asserted this fact, in print, "all hands and the cook" were down upon me! But now "all hands and the cook" are fully satisfied that it is indeed a *fixed fact*. And, that it is a fact, and a certain and sure result of planting trees which have made what growth they have, in a climate so altogether different,

a good many thousands of blind purchasers of trees, this past season, from Northern Tree Pedlars and agents of Northern nurseries, will learn to their cost. I doubt if less than a million of dollars was carried off from these Southern States by these pedlars and agents this Spring. But, so be it. As to the result, time will tell.

I have no time to go over the various published statements, made of late years, on this head. You have, no doubt seen them.

But—a *nos chagrin*! I soon found that at the then low prices of our chief staple, cotton, it would not pay me to carry on my experiments in fruit-growing, without turning them to some profit. And having been successful far beyond my expectations, I commenced the business as a nurseryman. A more troublesome and thankless one, I never engaged in. Yet the love of plants is one that, to me, is irresistible. And though abandoning the business here, after this coming winter, will continue it in Texas.

Now, then, we have reached the subject of this present writing:—DWARFED PEARS. I well remember seeing some fine, thrifty trees of Pear on Quince, during my boyhood, in the Old Country. Had, also, seen some good specimens North. Had read all that had then been written on the subject. And, finding it extremely difficult to secure good seedlings as stocks, and being determinedly opposed to the use of those abominations, *suckers*, I got in a goodly lot of cuttings of the common Apple-quince, and used them as stocks, until I procured the *Angers*. And, by the way, though there are some sorts that do no good upon the former, that thrive well upon the latter variety, there are still others which succeed to perfection on the Apple-quince. I have four trees of *Bartlett*, now some twelve or fourteen years old, which have borne full crops of magnificent fruit each year of the last ten; and they were worked on apple-quince. I however, greatly prefer the *Angers* to any other.

Let me premise that I have been limited, here, to forty acres of originally poor, and washed hill lands. There were, embraced in this, some three or four acres of bottoms, originally of the richest soil possible. These, by deep trenching—turning down the clay which had washed over the original soil—and by underdraining; and the hills by trench-plowing and manuring, have all been made suitable for the growth of young stock. But, I had very little to spare, suitable for fruit-bearing trees.

One small slope, dipping to the South perhaps one foot in five, covered with a close crop of that most invaluable of hay and pasture grasses, but most terrible of pests in crops of any kind—*Bermuda Grass*, as we wrongly call it, (the *DooB-GRASS* of the Hindoos; the *Cynodon dactylon* of Botanists). I trenched two spades deep, loosening up the bottom of each

trench with the grubbing-hoe and fork; and there, the following season—the *Bermuda grass* being thus conquered—I planted a small orchard of some 300 Dwarfed Pear trees, of as many sorts. The ground is divided into five beds; the six-feet walks between the beds, being carefully laid off as *guard drains*, with a fall of one inch in ten feet, and emptying into a large pond; and the rows of trees being planted as nearly on a level as possible. For, be it known, that our soil, here, melts like brown sugar! And this melting and washing away have to be guarded against by every possible precaution.

About a hatful of broken bones were used in planting each tree; no other manure. But on the two upper beds, and the ends of all but the lowest, being somewhat poor, a good barrowful of rich, fresh, black soil, from a hill-side, the growth of which was originally *Magnolia grandiflora* and *Liriodendron*, was given to each tree there planted. I find, too, that the trees in the upper row of each bed, and especially in the bend of the walks, where some deposit is made, are by far the most vigorous and handsome; but not always the most productive.

The whole of the stock was covered about an inch; two would have been better upon sloping ground.

A good many sorts have died; and of these, unfortunately, correct notes were not always kept. The trees were planted during the winter of 1851-2, being then of two years' growth from the bud. Some few have been replanted since then. They were placed about twelve feet apart each way. Have had but very indifferent attention in the way of training and pruning; and now need the knife very much indeed. Little or no manure has been applied, except once to the two upper beds, which produced such an exuberance of growth, as to lead me to root-prune the trees in these two beds, two winters ago; and last year they bore and ripened a heavy crop; and this year have already set an enormous one. Once a year the ground was dug, and the Strawberry plants, which occupy the ground, replanted. The trees are nearly all branched very low; in many cases sweeping the ground. These trees, with few exceptions, grow and bear best. In almost every instance, the diameter of the Quince stock is nearly double that of the Pear at the surface of the ground. In some few cases, the soil having washed from around the tree, and could not well be replaced, the tree was let down a few inches, by digging around and forming a good sized ball, but cutting all the larger roots. The result was always an increased productiveness. I have filled up several vacant spaces, with large bearing trees from other parts of the grounds; with no injurious results whatever to the trees transplanted. Once or twice during the summer, the ground is hoed over. So prodigiously heavy is the crop now set upon these trees,

with rare exceptions, that it is my intention, so soon as it can be done, to mulch with a good coat of stable manure, that has been exposed to the weather all winter. If I had the *Guano*, they should first have a good *soak* or two of a weakish solution of that valuable manure. In either case, care must be used not to induce a too rank growth, else the fruit would certainly, in a great degree be shed off.

A great majority of these trees have borne fruit annually since the second year they were planted. Some have ripened enormous crops. During the last five seasons, I have, unfortunately, not been here from about April to May, until September or October; my family, too, being generally with me in Texas. And, although I gave express orders that certain notes should be kept, and especially descriptive of the fruits grown on the premises, I have never yet succeeded in having any thing done in that way, that was at all reliable or satisfactory. And now I leave again in a few days, to be absent until November. So that my notes upon the varieties will relate chiefly to their growth, comparative productiveness, state of forwardness, in leafing out and in blooming at this date, &c. They range, generally, from seven to fourteen feet in height, with a spread of branches from six to twelve feet, and stems from two and a half to seven or eight inches at the ground. Although I have lost quite a number of *Pears on pear*, from a sort of blight, of the nature of which I am not sufficiently well-satisfied, even now, to speak knowingly; of *Pears on quince* I have lost very few indeed, and these I ascribe chiefly to a too free use of heating manures. And you will find, in these notes, that many sorts which Northern writers condemn on quince, or commend very faintly, do admirably well here.

You may note this, however, relative to the quality of fruit produced, that we have here the region of Pear growing *par excellence*. Such specimens of individual varieties I have never seen produced elsewhere. Our excellent friend, Marshall P. Wilder, will recollect, I presume, specimens of *Seckel* which I handed him during the Fair of the National Society, at Louisville, two years ago, which measured from eight to eight and a half inches around! And I have had them still larger; and from dwarfed trees on quince. Although the finest specimens of *Seckel* I have ever had, were from grafts inserted in large, bearing Apple-trees, and which continued enormously productive for ten years or more, when they needed regrafting. We have had, here, specimens of *d'Angouleme*, *Winter Nelis*, *Beau present d'Artois*, *Bartlett*, *White Doyenne*, etc., etc., which would stagger your belief, were I to give you their dimensions.

The business of Pear growing, along the banks of the Mississippi, for markets, both North and South, is yet to be a vast one. And those will find it most

profitable *who plant dwarfed trees*—my neighbor Hebron's opinion to the contrary, notwithstanding! On the hills, where the preparation of the soil can only be done, and indifferently well done, with the plow, I should prefer the bulk of my trees on healthy, sound *pear seedlings*. Under no circumstances could I trust to trees worked on *suckers*. And these trees must either be grown in the South, or *maiden trees*, (those of one year,) planted, and *cut to the ground*, that they may here make a new growth.

And in planting orchards of dwarfed Pears, I should prefer the rows to run North and South, twelve feet apart, and trees seven to ten feet in the row, as to habit of growth. They will then shade each other, and the soil in which they grow, during a longer period of each day; whilst both sides of the row would get its share of light and warmth; and the trees being so trained and pruned as to form vast hedges, as it were, would be much less apt to lose their fruit from our frequent severe gales. Those of more spreading growth would require more space in the row than the upright growing sorts. And some such as *Bartlett*, *Gansell's Bergamot*, *Glout Morceau*, *Duchesse de Mars*, etc., I would plant in rows, with only nine feet between the rows and seven between the trees.

Just imagine extensive orchards of such trees, in a perfectly healthy condition, growing in soil which required no manuring or trenching, and nothing more than mere surface tillage with perhaps, a light mulching! Under, or other *thorough-drainage* might be needed, however.

As my next will contain the promised notes, I will close with the remark, that the past has been the most terribly destructive Winter on Southern gardens and nurseries ever experienced. Every thing at all killable was destroyed. And this because the weather just before the first killing frost, had been real-spring-like, and every thing was growing vigorously. It has been a severe blow to Southern Nurseries. But one that most of us are resolved, if Providence permit, to overcome.

I have said nothing of my experience in Texas, as tolerably full notes on that head were given in my *Southern Rural Almanac* for the current year, of which by the bye, of the number for 1861, there are already ordered 70,000 copies!

[Mr. Affleck is so well known, not only as one of the most active and energetic of our horticultural pioneers; but also one on whose discrimination and judgment thousands have learned to rely; that it seems like painting the lily, or gilding the rose, to call particular attention to this article. But, coming as it does from such a remote corner of our Union, and one to which so many of our readers are looking with interest, we cannot help saying that we regard it as of particular value.—Ed.]

The Gardener's Monthly.

PHILADELPHIA, JUNE 1, 1860.

✂ All Communications for the Editor should be addressed, "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY BOX 406 Philadelphia."

NOTICE TO CORRESPONDENTS.

In consequence of the heavy increase in the circulation of the *Monthly*, and the consequent necessity of going to press earlier in order to issue the Magazine punctually to all our subscribers by the 1st of each month, it is desirable that communications requiring immediate attention, should reach the Editor before the 10th of each month.

WATERING WITH COLD WATER.

There has been no lack of suggestions for improvements in Hothouse building. The smallest plant cabinet may now be fashioned on truly scientific principles. But there are a few points connected with the subject that have not had the attention they merit. On one of these we now propose to say a few words.

We would have the water employed in Horticulture, always of the same temperature as the soil about the plants to be watered, and we would have arrangements made in every house for insuring this desirable end.

We are aware that some amongst the savans distinguished in horticulture, care little for an uniformity of temperature, and yet boast of their success,—and we also know that a few even advocate a high temperature during the day, and a low degree during the night, and point to the luxuriance of vegetation in a state of nature, where

" ————— the leaves of the trees
Are rocked to rest by the cool night breeze,"

as the greatest authority we can follow in such matters.

All this may be very well. We have no sympathy with those philosophers who demand that the thoughts and practices of their brethren shall be either stretched out to the length, or shortened to the narrow dimensions of their Procrustean bed,—and neither have we any ambition to stand with the scales of Nemesis, weighing out and balancing right to this one practitioner, and wrong to the other. That there are some excellent growers, who can successfully hurry along their plants during the bright hours of sunshine, and when night comes "shut off the steam" of growth, until

"The Sun shall again kiss the dew from the Rose,"

we know is a fact. This may be owing to other causes, and in spite of the treatment. Whether or not, we will not be so critical as to inquire.

But our own affections wander away after that idea which tempts its captives to a moderate degree of uniformity in temperature, and, as a necessary consequence, to take care that the water employed is of the same temperature as that of the house. We have seen so many good deeds flow from this idea, that we cannot help loving it, and have observed so much evil spring from its opposite, that we have a dread of entering any plant house where it holds the power.

Hydropathy may be all very well as a curer of animal disorders; but cold water has been the death of thousands of plants,—and of cuttings especially, the number annually destroyed by it is astounding.

We get up a hotbed or a propagating pit, and so carefully arrange it that we can insure a regular bottom heat of 80° or 90°, and, as the cutting pots dry, we get water from the well or hydrant at 55° or 60°, or even less, use it over the cuttings, and they die. Then we scold the pit, blow up the house, heap anathemas on the sand, cry out about the fungus, have a great deal to say about the drainage, and make a great deal of complaint about every thing generally; but the right thing, the cold water, or rather the sudden change of temperature brought about by it, whoever thinks of it?

Some few there are, certainly, who can look on Mr. Kidd's now famous system of setting out *Verbena* cuttings into a tea saucer of sand, made into "slush" by water, and set in the full light, and learn by its great success, that it is not in the sand, or the drainage, or the mere degree of temperature, that we have to look for the secret; but in the one regular degree of humidity and temperature that is maintained. In fact, there is scarcely any thing of which cuttings cannot be struck in mere water, if one regular degree of heat and moisture is only sustained.

And it is the same with plant growth. We have entered the houses of florists to whom it was very important to have flowers for early Spring marketing, grow tolerably well through the winter; and have heard them complain that "for some reason or other their plants did not seem to grow at all, though they maintained a temperature of 55° or 60°. The reason has usually been apparent; that water often dipped out from under an ice barrel has been employed for watering, and the temperature of the soil in the pots has rarely been much above freezing point. This is particularly the case with those who use cold water in houses that have no side lights. In houses that have these additions, the early morning sun assists in raising the temperature of the soil so cooled by the water.

It is not usual with us to draw much consolation from "nature," because we know how liable this extremely patient and forbearing character is to be abused and misinterpreted. But the present season

is a remarkable instance of the want of warm water in the soil. We have had here one of the most open and mild Springs on record. Since February there has been, with a few exceptions, scarcely a cold day. On the contrary, the majority have been what, for the season, we would call "warm;" and yet vegetation is scarcely more advanced now (May 2d,) than we sometimes see it at the same date in April; and the ground is so cold, that though "corn-planting" time is nearly come, the nursery hands complain of cold fingers, while bedding-in young stocks and seedlings. All this arises from the absence of warm rain, in which this season, though otherwise so open, has been singularly deficient; and without which warming of the soil, vegetation cannot grow.

But we value practical experience, in the benefits of keeping up an uniform degree of high temperature in the soil, by using water of the same temperature as the house, far more than any analogical illustration borrowed from nature. And knowing well the advantages of the practice we recommend, we would advise all getting up hot or greenhouses, to make as good provision for heating the water to be used in them, as for heating the air of the structures. This will often be expensive; but it will be money well-spent. And indeed, it may be a question whether warm water to keep up a temperature, is not, after all, as cheap as fuel to raise a temperature which cold water has depressed.

To those of our lady friends who have but a few plants to attend to, the matter will be easily accomplished by adding warm water to that which they use for their pets; raising it thus to the required temperature. But on a larger scale, it will require more thought and planning before hand.

THE LAWN.

If we carefully analyze the distinctions between a beautiful natural scene, and a well-kept garden, the most striking point of difference is in the lawn.

The rarest flowers,—the choicest fruits,—the nicest arrangement of all things on the most scientific principles, are lost to us, if they are not crowned by a perfect lawn. To the lawn we bow; and as a subject of horticulture, offer to the lawn our strongest allegiance.

Hundreds of dollars are spent on fruits and trees, and flowers,—and hundreds more spent on carefully preparing the ground for and planting them. The grounds are then seeded down, and when the season comes for mowing, and for the enjoyment of that most enjoyable of all horticultural pleasures, a good lawn, the owner hates "to lose his hay crop!"

Occasionally, however the lover of hay gets a glimpse of such beautiful tracts of lawn as Mr. Sargent's beautiful seat on the Hudson, or that of Capt. H. Ingersoll, and others near this city, are famed for;

and the hay fever subsides into a healthy desire to have something like the same for themselves.

To aid such of our friends in their virtuous resolutions, we propose to tell how to go about accomplishing their purpose.

And first the ground should be taken in hand, while dry, say about September, and subsoiled by a strong horse or ox team as deep as it can be done,—not less than two feet. Long straw litter or rubbish should be turned under into each furrow, as deep as it can be got; not so much with the view of manuring the ground, as of retaining as much moisture as possible beneath the surface in a dry time. This is one of the secrets of having a lawn to look green and fresh in Summer; the deep soil and vegetable matter incorporated therein, entices the roots down, where they can always find a supply of the liquid element.

In the world-renowned lawns of England this deep tillage is not so essential. Its moist climate keeps up the color; our deep soil does the same thing. It is not necessary to manure much on the surface. We would sooner sow on a poor soil, and sow thick. Coarse manure is the very thing for coarse weeds, and rough unsightly grasses, which are thereby encouraged to overgrow and crowd out the finer kinds.

As soon as the fall rains are likely to set in regularly, sow the seed,—and with it a little Rye. This will grow stronger than the grasses, and by shading the ground a little in Winter, prevent the throwing out by freezing and thawing, of the delicate grass plants.

If the ground for the lawn be not extensive, we would not sow rye; but rather cover with a thin coat of clean straw through the first winter.

After sowing, of course, the whole must be rolled smooth with a heavy roller.

Much of the success now depends on the first season's management.

First it must be gone over with the scythe as soon as it will lay hold of the grass; and, secondly, it must be carefully hand-weeded throughout the season. A Cabbage-bed will not require more watchful care in this respect than will the lawn. If weeds are once suffered to gain a foothold, all hopes of a good lawn are over; while on the other hand, if perseverance in rooting out the weeds, is maintained for one season, the triumph is complete, and a trifling watchfulness in the same line next season, will render it secure. Every succeeding Spring a day or two should be spent in watching the weed's progress, and acting accordingly; but very little action will be necessary after the first year.

As to the kind of grass, it is very immaterial. We do not like mixtures. It is preferable to have a lawn of one uniform color and growth, and this can only be secured by having but one kind. Rye grass (*Lo-*

lum); Blue grass (*Agrostis*); and Green grass (*Poa*), all furnish excellent varieties well adapted to lawn purposes. It is wise to watch the natural grasses of the locality, and what seems to thrive well, that kind employ.

The *Spergula pilifera*, to which we first called attention, and described it fully in our last volume, is now attracting much notice. Mr. Sargent's communication, in another column, shows satisfactorily its winter character, and if it should prove as able to stand our hot suns, as it has the winter, it must be valuable. A Committee of the Pennsylvania Horticultural Society recently reported against it, as unfit for our hot Summers; but we cannot learn that any of the members ever had any experience in it. To try as far as we could this winter, we put a plant in a two inch pot, and set it on a hot sunny shelf in a stove, and kept it barely dry enough to support life; but it has kept beautifully green and healthy and we have made from it the annexed cut:



Besides this, there are native plants very closely allied.—*Anychia dichotoma*, and *Sagina procumbens*,—the last so much like the plant in question, that we have difficulty in seeing the difference,—that may be seen any Summer's day thriving on dry barren rocks, about Philadelphia, and doubtless, many other places.

From these facts we have great hopes that this new lawn grass will be of very great value; this, however, the coming season will test; and then, if successful, we may not have to recommend, as we now must, to mow often.

PLANTS WITH ORNAMENTAL FOLIAGE.

(See Frontispiece.)

The horticultural and floricultural, like the political world, must have its hobbies, and at present the former seems to ride on grapes, and the floricultural, or rather, (to coin a word for the occasion,) the foli cultural community on leaf plants. We have recently

imported from London a set of the very beautiful illustrated work, edited by E. I. Lowe, Esq., published in numbers, entitled "Beautiful Leaved Plants." We have made a selection of six varieties, that have already been introduced into this country, and can doubtless be obtained from our leading florists.

The illustrations, although done by the chromolithographic process, may be relied on for their correctness. We annex a few descriptive notes, taken from the work above alluded to, of the plants figured.

Caladium bicolor splendens.—A stove herbaceous plant; leaves 9 inches long, 7 inches broad, with centre of each leaf of a glossy metallic lustre, between scarlet and crimson, the margin being dark green. Flowers white. Increased by division or suckers, or by small side bulbs, or tubers. The roots should be ripened off late in the fall, and lie dormant through the Winter; and in March should have the old soil shaken from them, and pot in compost of peat, turfy loam and well decomposed cow dung, with some sharp sand. Some persons place the pots in flats of water when in active growth.

Caladium Chantini.—Leaves 14 inches long, 10 wide; deep crimson in centre, shading off to pale green towards the margin, and covered with a profusion of irregular shaped white spots. Stems of leaves dark purple, striped with crimson. Culture and propagation nearly the same as the first named variety. If on repotting the roots in Spring, any decayed spots are observed, pare them out with a sharp knife, and dust the wound with powdered chalk. In repotting barely cover the crown of the root. Powdered charcoal sprinkled over the top of the pot is said to brighten the brilliancy of the colors.

Caladium argyrites.—This is a small variety; generally not more than 9 to 12 inches in height. The ground of the leaves is a deep green, shaded into a lighter color irregularly. Spotted with white. Culture and propagation nearly the same as the preceding varieties.

Sonerilla Margaritacea.—A charming little half-shrubby, low growing plant, with small leaves of the exact size of the illustration, beautifully dotted all over the upper surface with pure white spots. Flowers of a pleasing rose color. Propagation by cuttings in the Spring; the cuttings should be small, not more than three or four leaves. Plant in pure sand and plunge in bottom heat. Shade well, and when rooted pot off, and cover with a bell glass for a month. It does best in a moist atmosphere, and it should not be allowed to bloom much, as it is apt to weaken and sometimes to destroy the plant. In Winter it should be sparingly watered and fully exposed to the sun's rays; but in Summer should be partly shaded.

Anectochilus striatus.—Leaves oblong-linear, dark bronzy green, slightly veined and having broad dis-

tinctor stripes of ochreous yellow extending along the centre of each leaf. The leaves are of the exact size of the illustration. Culture same as for the rest of the genus, viz.: soil a mixture of fibrous peat, and sphagnum moss chopped small, and freely mixed with silver sand, having a few small pieces of charcoal added. It should be grown under a bell glass. Propagated by suckers and by pegging down a plant, and when it has thrown out roots, cutting off at the joint below.

Ananassa sativa variegata.—A variegated variety of the Pine Apple. Culture the same as that plant. Soil—fibry loam, two parts; well decomposed dung, half a part; decayed leaves, one part, with a small quantity of peat, which is thought to improve the variegation. Propagation from suckers, and from the crown of the fruit, which should be twisted out and planted like a sucker.

IMPROVEMENTS IN WATERING-POTS.

In few things are there more need of improvement than in Watering-pots. Of the legion of forms offered for sale in most of our tin shops, the majority are only fit for the laundry, as clothes sprinklers. Most nurserymen have to get a few made expressly for their own use; but tools made to order are always expensive, and for all seldom exactly what we want.

The following cut we find in one of our English exchanges:



The advantages claimed for this is, that the peculiar handle renders it less fatiguing to handle than the ordinary form.

The rose—as the water spreader at the end of the spout is termed—appears to be fixed. This we do not like in a watering-pot. The rose should always be moveable, so that when matter gets in, choking the holes, it can be readily taken off, and the obstruction removed. Besides, it is often necessary to use the pot without the rose, and any contrivance that would admit of the rose being attached temporarily to the body of the watering-pot, instead of being kept in the operator's left hand, or thrown aside, where it is found only by a sacrifice of valuable time, would be a very decided improvement.

The tubes of the roses often split at the joints, by being often fitted on in using. This we have prevented by having a small piece of tin soldered around the base, as in Fig. 2.

Usually roses are made too convex on the surface; frequently representing half a globe. They should be very nearly flat; the smallest possible elevation is sufficient.



POST-OFFICE IRREGULARITIES.

Our contemporary *The Horticulturist*, notices the frequent complaints of subscribers not receiving their papers punctually, and sometimes not at all. We have been on the point of calling attention to the same thing, for some time past.

Publishers of periodicals are subjected to very heavy losses from this cause; and so great has the evil become, that a publisher is compelled to print at least ten per cent. more copies than is necessary to supply a given number of subscribers.

In addition to this loss he has the annoyance of receiving and answering a number of angry letters and the consequent expense of the postage on them. We have invariably, when a complaint is made, mailed the missing copies; but frequently they fail, also, to reach their destination. We sometimes suspect the growing taste for horticulture has reached even some of our Post-office clerks. No one scarcely ever hears of a letter being lost by the post and we do not understand why it should be otherwise with printed matter.

SHADING PLANTS IN SUMMER.

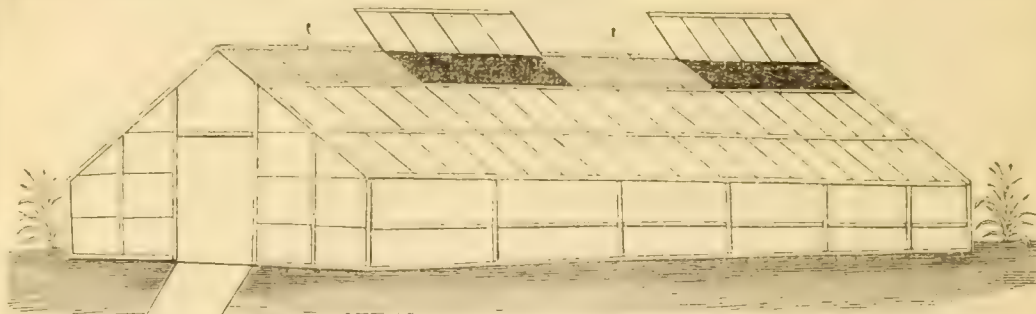
Every gardener knows the tribulations the month of May brings with it, in the necessity of finding places that cannot be found, where plants may be shaded in Summer, and yet have light and air sufficient to keep them in sufficient health. Old trees, fences, the North side of buildings, and other places more useful than elegant, are pressed into service; and yet the annual mortality is great, and with some kinds of plants, new Holland species, for instance, the losses are so heavy from heavy rains and exposure, that in many instances their cultivation is abandoned as hopeless.

Several of our correspondents have suggested canvass shades; and we would again impress on our plant growing readers, their importance. They may be made moveable, and so arranged as to pack away into a small compass during winter, when not wanted.

In a recent number of that excellent English periodical, the *Cottage Gardener*, is a sketch of a neat contrivance used by Mr. Standish, the eminent nurseryman.

It encloses a piece of ground 90 feet by 60 feet, with Larch poles standing 7 feet out of the ground, and about 10 feet apart. On these were nailed laths 19 inches from each other, and tiffany was pulled tight and tacked on the laths, a piece of common list being first put on where the tacks went, in order that the tiffany might not tear away, nor be cut by the heads of the tacks. The lower half of the sides (3½ feet) was tacked down in the same manner as the roof. The upper half was covered with a stouter kind, and tacked on to wooden rollers, so that this

part could be rolled up or let down. The whole place underneath was laid out in beds, and was certainly a most agreeable promenade, even when outside the north-east wind blew as if it intended to ruin all the barbers in creation.



Tiffany is muslin, prepared by a secret and patent process, and we believe has not yet been brought into use on this side of the Atlantic. One good recipe for glazing muslin is given at p. 56 of our last volume

Questions and Answers.

WATERING WITH COLD WATER.—*W. D. F., North Attleboro*—will we think find all her enquiries replied to in an editorial article in another column.

JONES' SUN FLOWER.—In answer to the inquiry in relation to culture and hardiness of the *Green Centered Helianthus*, I would say, it will flower well as far North as Maine, but will not ripen seed well further North than New York City. The culture is the same as the ordinary Sun Flower, but needs more of it. Respectfully yours, N. R. SIMMONS, Chatham 4 Corners, N. Y.

SILK WORMS.—A few eggs—less than 100—were wanted at the Farmer's High School. Will some friend of that institution, who has fresh stock, not hatch, send a few by mail, addressed to Professor J. S. Whitman, Farmer's High School P. O., Pa. The favor will be duly acknowledged.

PEACHES IN NEW YORK.—A correspondent from Watkins, New York, says that there has been a failure but twice in twelve years in the Peach crop of that place.

HOP TREE.—*T. M. F., Dallas, Ill.*—What is the difference between the Hop Tree and the Hornbeam, a common forest tree, growing nearly all over the West? Are they not one and the same thing?

[The Hop Tree is the *Ptelea trifoliata*. The Hornbeam is *Carpinus Americanus*. Hop Hornbeam is the *Ostrya Virginica*. All very different trees, but often confounded through a similarity of common names.]

LADY PEA.—*J. J. F., Henderson, Ky.*—Your seeds

belong to *Soja hispida*, popularly known as the Japan Pea, and which is becoming popular as a dried pulse for Winter use.

CHEAP LABELS.—From *E. W. Denison, Boston, Mass.*—The best and cheapest we have seen. Mr. D. lays all plant growers under obligation for his great improvements; an obligation we are sure he will find them active in repaying, in a way satisfactory to him. Specimens at our office.

GRAPES.—*J. L. S.*—Chorlton's, J. F. Allen's and Bright's are the three principal works on the Grape for this country. They all three possess their own peculiar points of interest. The best Catalogue of Grapes we have seen is that of W. R. Prince, of Flushing. It contains descriptions, we believe, of all the kinds ever heard of. It is a most valuable list.

FRUITS, &c., IN SOUTHERN ILLINOIS.—Dr. Charles Kennicott gives us, in a private note, a glowing account of fruit prospects and horticulture generally in Southern Illinois. It has come out of the late severe winter comparatively scatheless, and promises to become the garden of the Union.

COW PEA, ROSES, &c.—Will you inform me where the "Southern Cow Pea" can be obtained, price per bushel, &c. (1)

Will the following Roses grow from cuttings:—Persian Yellow, Giant of Battles, Madam Plantier. (2)

Can you give a convenient and infallible remedy for the large brown Squash bug, so destructive to Squash vines in all stages of growth. This bug is the *Coreus tristis* of entomologists, and is very common in the West, as all lovers of good squashes will testify? (3)

[1. Do not know it by this name.

2. All Roses strike from cuttings.

3. Mr. S. Miller, at the Fruit Grower's meeting, spoke of having effectually stopped the ravages of the bug by watering with hot-water. Tobacco stems might afterwards keep them away.

PROPAGATING HOUSE—*Maple Leaf, Hamilton, C. W.*—What am I to do with a Propagating House to make it profitable during the Summer months?

Can any thing be done with the present year's growth, with a chance of maturing sufficiently to stand out next winter?

What is the usual course pursued with such constructions during the hot weather, and how is the glass shaded?

Could a reliable person, with a knowledge of the business, be secured in your locality?

[We do not clearly understand the questions. Some men under some circumstances, could do something with a propagating house in summer to make it pay; but unless we knew the man and the circumstances, and so on, we could not tell. Some men would make it pay to grow grapes in such a house in summer, and hundreds would fail. We are afraid our answers will not be very satisfactory, and are sorry that we cannot better advise you.]

GAS LIME—*J. A. G., Muscatine, Iowa.*—All the experiments we ever saw, resulted in more injury than otherwise. If any of our friends know any way to use gas lime beneficially, we should be obliged by the account.

MANAGEMENT AND SELECTION OF GREENHOUSE PLANTS—*T. M. H., Lancaster, Ohio.*—Will you be kind enough to give me a few instructions in regard to furnishing a Greenhouse. I am about building one of the following dimensions:—60 feet, by 22 feet in the clear. I have a little experience in the culture of Greenhouse plants, but not enough to undertake it again without some advice. My Roses did not bloom until a few weeks since; and all the other plants ran up to long slender stocks, and furnished no bloom at all; the Camellia buds all dropped off with the exception of one, which bloomed a short time since.

I want more particularly winter blooming plants, and would be obliged if you would furnish me with a list of such plants, as you may think advisable; and also the names of a few of the best varieties of Roses?

Perhaps some of your numerous correspondents can give me some idea of what is needed. A few practicable instructions in the culture of Greenhouse plants furnished by them would, perhaps, be of benefit to a large number of persons situated as I am.

I read your valuable *Monthly* with much pleasure, and find it a great advantage in a great many ways.

I would not do without it, indeed, I could not get along without it.

[This requires an answer at greater length than this column allows.

Some of our valued contributors will probably furnish an article or two on the subject, which we should be happy to receive.]

A STRING OF QUERIES—*M. B. C., New Castle, Delaware.*—Mr. Meehan: Thank you for the article on Summer Pruning, drawn out by a lady correspondent. Your *Monthly* is very welcome to us, who, living in the country, are often puzzled to know how to make our flowers bloom, and have no florist at hand; our nearest is six miles from us. He repots the plants in the Summer, and cuts down all the Fuchsias,—which have been very flourishing, but until now have not bloomed; they are now full of buds.

How shall I treat them to have an earlier bloom next year? (1)

Should Azaleas be repotted now? Should the pots be sunk in the borders next month? (2)

Should Camellias be put in the ground in their pots—trimmed? You seem to take so cordial an interest in enlightening ones ignorance, that I feel free to trouble you. My Camellias I kept in a glazed porch, thermometer 40° to 60°, no fire heat except a few cold nights, and the air from the flue in the hall. Water always in the room, and they regularly watered. Still they dropped their buds. Your *Monthly* caused me to think the waterings had not been thorough enough. Now some branches look sickly, and some are growing finely. Shall I trim off the sick branches? (3)

In what way can we cause flowers to bloom in winter? (4)

Will heading in do it? (5)

Should all blossoms, in Summer, be pinched off? (6)

I expect these questions will amuse you, as showing my ignorance; but, dear sir, your efforts to enlighten my ignorance may be useful to others not better informed.

One more question. Is there any reason why heating a room by burning gas in a stove should injure plants? (7)

In spite of my ignorance, my flowers are a great pleasure to me; and I am able, by the gift of a simple Geranium, Ageratum or Alyssum, to gratify many of the young people, and to induce a love of flowers in their hearts, which will grow with their years, and make their homes pleasant and beautiful.

Can you tell me where plants of our native *Gentian* can be purchased, and whether the *Amaryllis venusta* has been introduced here. I have two flower-shoots of four blossoms each, on a plant of *Amaryllis Johnsonii*, which was potted March 8th, and placed in

a saucer of water on the top of our heater in the cellar, until it sprouted. My Achimenes rooted beautifully, heated in the same way.

There is yet one question more. What treatment should Begonia Fuchsoides have to make it flower well in the winter? (9)

I hope, dear sir, I have not wearied you by my numerous questions. You seem to have an innate love of flowers, and to desire to stimulate the same in others; this will, I hope, cause you to forgive this intrusion upon your time, etc. (10)

[1. To have an early bloom of Fuchsias next year, train your plants as already directed in the chapter on Summer Pruning, this year; and next Spring merely shorten in the points of the past season's growth. They flower earlier from old wood, than when they have to make an entirely new growth.

2. The best time to pot Azaleas is just before or at the time they commence to make a new growth,—in Greenhouse culture about March.

3. Camellias should be set out during Summer, in an airy place; but where the sun will not get at them. The pots may be plunged in the earth; it will obviate the necessity of frequent waterings; but the pots should be taken up, and replunged two or three times during the season to prevent too strong a root growth through the hole in the bottom of the pot. A "shining light" in the profession says, that if the rim of the pot is entirely buried under the soil, the roots will not go through the hole at the bottom, but ascend over the rim instead; but not yet having tried this ourselves, we do not offer to be sponsors for the fact.

Camellias must be watered when dry, and yet frequent applications of water will injure. The effort should be to prevent the soil drying as much as possible, by placing water in pans near the plants, and in any other way making the atmosphere as moist as possible. Sprinkling the plants with water daily is a good plan, and twice daily if the room is very dry. Cut away all sickly shoots.

4. Camellias can only be made to bloom early by forcing the growth early the season previous.

5 and 6. As applied to flowers in general, cannot be answered in a general way. Different species require different treatment.

7. There will be no injury, if no gas is suffered to escape. But the *if* is very unreliable in a gas stove.

8. Mr. Robert Kilvington, West Philadelphia, has the best collection of native plants of any nurseryman we know. Most all the principal nurserymen who have general collections of house plants have, or can get, the different species of Amaryllis.

9. Grow it well this summer,—that is pot it into a six-inch pot of turfy soil, and plunge the pot in a partially shady place till fall.

10. The string of questions is rather long, but we can easily forgive ladies their faults, especially when they spring from the love flowers in particular.]

SEX OF EGGS.—Several of our correspondents inquire which of the marks in the egg represents the lady and which the gentleman. We are glad to find so much interest manifested in the subject, which, if we had stated which it was, we are sure would have soon been forgotten. As it is, we are sure our friends will learn more by experimenting a little, than if we say at once which it is.

Books, Catalogues, &c.

First Annual Report of the Proceedings of the Fruit Grower's Society of Eastern Pennsylvania.

We are just in receipt of the first issue of this Society, and find it a valuable paper, and which all who receive it will do well to carefully preserve. The addresses of Dr. Eshleman, Messrs. Rutter and C. H. Lefevre, are given in full, and form interesting chapters in the Pomological history of Pennsylvania.

The proof-reading might be improved a little, though, some cases where speaker is made to say, that he preferred to subsoil with the plow, than by "hard" labor for *hand* labor, the error is not so material, as when another is made to say that hand-trenching cost him "\$16" per acre, instead of \$60, as our reporter correctly made it.

The next meeting of the Society will be held in West Chester, on the 13th of June.

Address of Dr. H. W. Ravenal, before the Aiken Fruit Growing Association, July, 21st 1859.

Evidencing a profound scientific knowledge, with the happy faculty of making dry abstractions plain to the commonest understandings, we have perused it with much pleasure.

The Human Voice, by Rev. W. W. Cazalet. Fowler & Wells, New York.

One of the many useful little works for which this firm is so famous. A cursory examination satisfies us that few would read it without profit.

The Throne of David; or, The Rebellion of Prince Absalom, by Rev. J. H. Ingraham. A handsome duodecimo volume of 603 pages, we have received from the publisher, G. G. Evans & Co., Philadelphia.

Kennedy's Bank Note and Commercial Review, for May 1860; has been received from the publishers, at Pittsburg, Pennsylvania.

Few business pursuits call for the handling of so varied and so suspicious looking a currency, as that of the nursery trade; but as we presume all nursery-

men subscribe for this standard detector, we need not call their attention to it.

CATALOGUES.

Hugh Low & Co., Clapton, London, England. New and desirable plants.

Hovey & Co., Boston, Mass., A full set of their very full and unique collections.

Ensign & Ford, Toledo, Ohio. Descriptive Catalogue of fruit and ornamentals. It also includes Roses, Phloxes, and other popular kinds of flowers; and with the names and descriptions particularly full and accurate.

Geo. Davenport, Dedham, Mass. Small fruits, &c.

J. W. Manning, Reading, Mass. Nursery catalogue, and circular of Cutter Strawberry; one of the newer candidates for public favor.

J. C. Allen, Lena, Ill. Fruits.

Mr. A. "wants to clear off his ground," "wants to go to California," and, besides all the other "wants" usually resorted to, to draw sales, "wants money;" but he "don't want the money," and certainly not "the notes," of those who "stick in trees, and leave the rest to nature," and "never have no luck." Take their money, friend Allen, and induce them to take a year of the *Gardener's Monthly* besides. They will turn right side up in the end.

John W. Adams, Portland, Maine. A very neat and respectable catalogue of nearly every thing grown.

H. A. Dreer, Philadelphia. Flower seeds.

Geo. F. Needham, Buffalo, N. Y. Flower seeds.

A. Bennett, Wilkesburg, Pa.—Roses, Verbenas, &c.

Barnes & Washburne, Dorchester, Mass. Full sets of their complete collections of florist's flowers.

H. A. Swazey, Tickfaw, La. Fruits.

Matthew Mackie, Clyde, N. Y. Fruits, &c.

C. J. Miles & Co., Rochester, N. Y. Descriptive catalogue of a full collection.

W. Parry, Cinnamonson, N. J. Fruits, trees, vines and plants; illustrated.

Dreer's Plant Catalogue for 1860; Philadelphia.

R. Buist & Son, Philadelphia. Bulletin of rare and choice flower seeds, supplementary to Spring catalogue.

Hubbard & Davis, Detroit, Mich. General list.

New or Rare Plants.

New Summer, Autumn, and Winter-flowering *Tydas*.

T. IGNESCENS.—A very beautiful variety, of free growth, with a profusion of brilliant scarlet funnel-shaped flower tubes expanding to a bright vermilion-tinted orange-scarlet border or limb, from $1\frac{1}{2}$ to 2 inches in diameter, which is elegantly marked with dark velvet-like crimson bands and spots.

T. ELEGANTISSIMA.—A dwarf variety, with light scarlet-flower tubes, and rich salmon-tinted rose-colored border, which is picturesquely traced with rosy-carmine lines, and showing a bright, rosy carmine-tinted margin.

T. COUNTESS OF CHICHESTER.—A superb flowering plant, allied in its habit of growth to the still beautiful *Lady Digby*, *T. Pearl des Tydas*, and *T. gigantea*, less robust than the latter, but superior to all in the rich cramoise-crimson colored blossoms nearly 2 inches in diameter, upon ventricose crimson scarlet flower tubes, and intense violet border, which is very finely traced and scored with dark crimson lines and spots.

T. VOLUNTEER, (Elliot).—A neat and attractive dwarf branching variety, with dark red stems and ovately-cordate leaves, prominently marked by crimson veins. Flower tubes crimson scarlet, throat or inner tube creamy white with carmine red lines, the upper border bright reddish crimson, picturesquely banded and spotted with dark velvet-like color, lower border lobes of a bright flame tint.

T. LURLINE, (Elphinstone).—A distinct and effective variety with orange-scarlet flower tubes, and lower front border of an ochraceous white ground, tint richly banded and spotted with brilliant cerise crimson, whilst the upper border shows a bright carmine ground scored with intensely dark lines.

NEW GARDEN FERNS.—*Pteris Tricolor*, (Linden).

Fronds pedately pinnate-pinnatifid, *i. e.* pinnate with the lower pinnæ posteriorly branched, and the pinnæ pinnatifid (as in *P. aspericaulis*); base of the segments greyish-white, forming a broad silvery stripe on each side of the purplish-red rachis, the rest green.

It is not too much to say that this is one of the most interesting of known Ferns, for being of moderate size, of elegant form, and of graceful habit, it has the additional recommendation of being beautifully variegated with three colors. The upper and larger portion of its blunt linear purple-ribbed segments is of a dark green, while their basal portion is of a silvery grey, as in *Pteris argyræa*, and the rachis or rib to which they are joined, is of a bright purplish red. Thus each of the elongated pinnæ is marked with a broad silvery stripe down the centre, and in the centre of this again is a conspicuous red line. The young partially developed fronds are entirely of a purplish red. There is no doubt whatever that this charming plant, which has been introduced from Malacca, by M. Linden, and will soon be offered for sale, is a colored variety of *Pteris aspericaulis*, for which the name *tricolor*, given to it by Mr. Linden, may be well employed in gardens. It has exactly the same habit of growth as *P. aspericaulis*, and produces the greyish marbled primordial

fronds peculiar to that plant. Whether or not *P. aspericaulis* itself is botanically a mere form of *P. quadriaurita*, which is the view Sir W. J. Hooker adopts in his "Species Filicum," is a question that may be left till there is some test discovered for the limitation of species. For the cultivator they are abundantly different, and this new *Pteris tricolor* will rank in gardens as three-colored variety of *P. aspericaulis*. Young plants of the tricolor *Pteris* were exhibited by M. Linden, at a recent meeting of the Floral Committee of the Horticultural Society, and were awarded a First-class Certificate. *T. M.*

New and Rare Fruits.

AMERICAN SEEDLING GOOSEBERRY.—Mr. Samuel Edwards, says in *Prairie Farmer*, the kind known by this name in the West, is also known as "Pale Red," and the "Cluster" Gooseberry.

It is probably the same as the improved kind of native gooseberry, common near all old settlements, and often called Houghton's Seedling. Is there, after all but one variety?

leaves long and narrow; flesh exceedingly juicy and perfectly delicious, and by far the best of more than one thousand varieties I have tested. The tree blooms in succession for more than a month, and consequently never fails of a crop. Ripe throughout the last half of August.

W. H. BURFORD, M.D.

RAY PEACH.—Enclosed find a drawing of the Ray Peach, originated by Dr. H. Ray, of Galobusha Co., Miss. It is a hybrid or cross between the Indian Peach and some other variety, of which the Columbia is a type. Size medium, [the engraving is one-third smaller than copy sent]; color cream white, spotted



ted and veined with rich purple; glands reniform;

SELBY BELLFLOWER

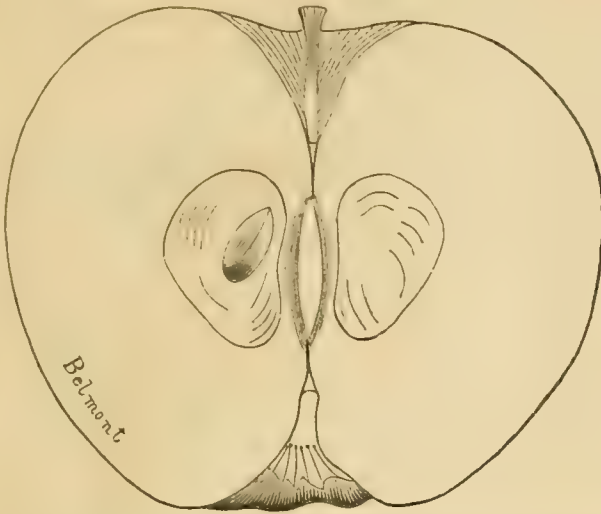
SELBY BELLFLOWER.—I send a rough outline of this new seedling apple. Fruit large roundish approaching conic; skin smooth; color pale yellow, on rather a greenish ground; stem medium in length, slender, inserted in a narrow regular cavity, surrounded by greenish russet; calyx medium, set in a shallow basin; flesh yellowish white, very tender, melting, juicy, mild subacid, with a very peculiar spicy rich flavor. November to March. Appears to be hardy and productive, somewhat similar to the Yellow Bellflower, (which it is a seedling of,) but a better keeper and much superior in flavor.

Pronounced by all who have tasted it to be without an equal. A great acquisition, and must become popular when known.

I. STAYMAN.

BELMONT APPLE.—This is not a new variety, having been already described by Mr. Downing, but its great beauty and value, has induced us to give a cut of it. It originated near Strasburg, Lancaster Co., Pa.:

and has, in a few localities, obtained the name of Gate Apple, and Mamma Bean Apple; the last from the lady on whose farm the original tree grew. It is said to be very popular in Ohio.

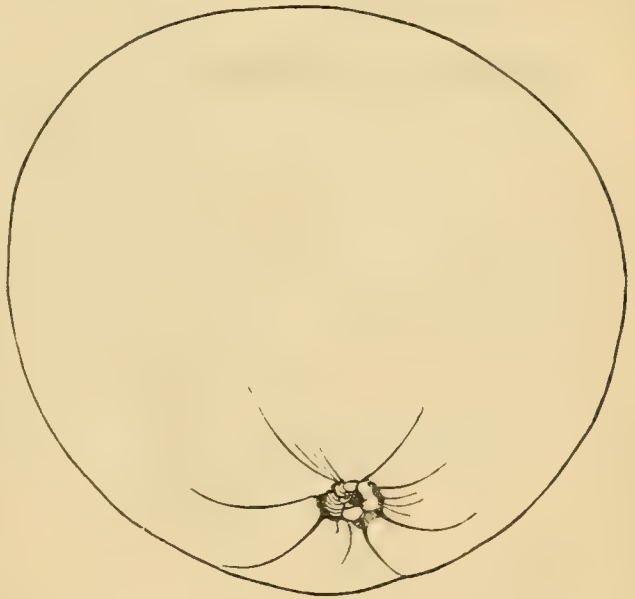


Fruit above medium, somewhat globular, flattened and narrowed towards the eye, inclining to oblong. Skin waxy yellow, with a bright vermilion-scarlet cheek; stalk the length of the deep cavity; calyx partially closed, in a deep plaited basin. Flesh yellowish white, crisp, juicy and agreeable; of first quality. Said to be regular and abundant bearer. Feb. 20th. Our specimen is from Evans & Co., of York, Pa.

COX'S ORANGE PIPPIN APPLE.—This is considered as much a windfall to our trans-atlantic friends as the Seckel Pear was to us—going far ahead of any thing they have had before, and threatening to render dumb those who pertinaciously chaunt the praises of the Ribston Pippin, which to an American taste, has ever been suggestive of the story of "Paddy's Leather Breeches."

It resembles in form and appearance the Old English Nonpareil. It has a russet yellow skin, shaded and mottled on the sunny side with a beautiful scarlet-rose.

A friend has kindly handed to us a colored drawing, made by Andrews, from which we have had the annexed cut engraved.



GROSH APPLE, (Libhart).—Read before the Fruit Grower's Society of Eastern Pennsylvania, at Lancaster.—Size, very large, 3 inches in length by $4\frac{1}{2}$ in breadth, some specimens weighing 22 ounces; form oblate, often a little one-sided; skin pale, greenish white, on the sunny side profusely streaked with light and deep red, more or less intense at the base and gradually fading away towards the apex, speckled with numerous minute specks; stem short; cavity rather deep and narrow; calyx medium, basin comparatively small and abrupt; flesh white, texture loose and soft, rather juicy and quite acid. Ripens in September. Does not keep well; excellent for culinary purposes, cooking tender when quite young. Shoots stout and

erect; color brown; bears annually, every other year profusely.

This large and fine apple was originated by the late John Grosh, of Snufftown, Lancaster Co., Pa. About the year 1816 he planted the seeds of a Yellow Bellefleur, from which he raised several seedlings, all of which proved worthless when they came to fruit, excepting the one we have described. He had fruit several years before the original bore, from grafts placed upon bearing trees. Being pleased with the fruit he presented the original tree to his relative, the Hon. Jacob Grosh, of Marietta, in whose garden it still flourishes, a noble looking and vigorous tree; having served its present proprietor with many generous crops of desirable fruit, and promises yet to serve some generations to come.

We believe it has never been before described or brought to public notice, yet it has been somewhat disseminated where it is known. It has lately attracted the attention of nurserymen; and when better known, will be sought after for its large size and showy appearance. It will prove a splendid market apple. We have seen it in the market, in small lots, where it commanded ready sale at good prices, when other apples were a drug.

Domestic Intelligence.

RIPENING OF FRUITS.—Certain substances are known to have the power of *storing up* light, and of giving it out in the dark;—among others, tartaric acid possesses this power in a high degree.

It has been demonstrated by comparatively recent researches on light, that if a solution of starch, or its isomeric form *dextrine*, be subjected to the action of solar light for a short time, it will be found changed into *glucose* or grape sugar.

Further, it is known that the starch which exists in all fruits in their unripe state, is changed by the action of the sunlight into acids and sugar; and when this process of sugar making is completed, the fruits are said to be ripe. And the main reason why many fruits will not ripen in northern climates is this, that there is not sufficient intensity and continuance of sunlight and heat to effect this change of starch into sugar.

Now, putting this and that together, M. Niepce de St. Victor has, he thinks, satisfactorily proven, that by surrounding bunches of grapes in the early part of the autumn by thin bags of white paper which have been dipped in tartaric acid, not only is their ripening hastened; but the quantity of sugar which they contain is greatly increased.

Experience is the best proof of the truth or fal-

lacy of this statement; but it has a great appearance of reason: for the tartaric acid storing up the sun's light during the day, will impart it to the fruit at night, and thus in effect give a longer continuance of the sun's metamorphosing action. Doubtless the method is applicable to other fruits also.—*Scientific Artisan*.

KESWICK CODLIN APPLE—At the Tamaroa meeting, Hon. M. L. Dunlap said he esteemed this variety excellent for drying, and the best summer and cooking apple for all portions of Illinois. Tree very hardy, perfectly free from disease, an early and abundant bearer.

TO COOK ASPARAGUS.—A little contrivance and ingenuity will avoid sameness, varying the mode of cooking. Experience will soon teach the quantity of water required; let it boil; then lay in the stalks, the older ones at the bottom and the younger tenderer ones on the top, where they are not of uniform ripeness. Sprinkle a little salt among them, cover tightly and keep closed till done. The steam and the juice of the stalks do away with the necessity of having much water; use as little as possible. If prepared with toast, have the bread nicely and evenly toasted, and moistened either with some of the Asparagus water or clear water, buttered and laid on a platter; take up the Asparagus carefully and lay over this, pouring over the whole a little cream or milk gravy or drawn butter; or it may be taken up with a skimmer and laid in a dish and a little butter or cream spread over, or some of the water in which it was boiled thickened and poured over. ELSIE.

[While passing the above scrap from the pen of a lady whom reputation speaks of as one of the best housekeepers in the Union, into our "intelligence" column, we may take the opportunity of calling the attention of our readers to the *Wisconsin Farmer*, in which it appears, as one of those energetic Western papers, which is doing so much good for horticulture and agriculture in that region, and well worthy of extended support.—Ed.]

POTATO MUFFINS.—One pint of milk, six large potatoes mashed, one egg, a desert-spoonful of butter, and one gill of good yeast.

FINE COLLECTION PEARS—of Mr. Wilson, Malden, Mass., is said to be one of the finest in the world.

NEW VEGETABLES.—The Pine-apple Short-top Beet is a most superior variety. The Frogmore Protecting Broccoli, is a superior hardy, dwarf white variety; the Striped Purple Egg-Plant is as good as the purple, and more ornamental.—*Hovey's Mag.*

OBITUARY.

MR. CHARLES L. INGRAM, one of our best gardeners, and well-known amongst the "craft," in this country, recently died at Savannah, Ga., of consumption.

MR. J. W. JONES, the originator and one of the Editors of the *Southern Cultivator*, a journal that has done, and is still doing, immense service in the cause of horticulture, was announced as deceased in the February number of that journal.

M. LOUIS VILMORIN, the well-known Paris Seedsman, and noted for his botanical enterprizes and and the whole horticultural world, owes much to his knowledge, is amongst the recently deceased. France, energy. The business, we presume, will be continued by his partners.

MR. ALEXANDER PARKER, the oldest member of the Pennsylvania Horticultural Society, died recently, aged eighty-three. He at one time had the finest floricultural establishment in Philadelphia, in which he so gloried, that he opposed so vehemently the city's cutting a street through his garden, that his failure to prevent them weakened his intellect from which he never recovered.

B. V. FRENCH, Esq., of Dorchester, Mass. We learn with regret of the death of our friend Mr. B. V. French. As a leading horticulturist, his fame was widely extended; and as one of the founders of the Massachusetts Horticultural Society, and a useful citizen, his death will be, like that of all really good men, lamented particularly where he was the best known.

Foreign Intelligence.

THE NEW MARKETS IN PARIS.—The Paris Correspondent of the *New York Journal of Commerce* says that there has just been completed there a group of six of the most magnificent market pavillions in the world, formed of glass and iron, and covering a surface of about 30,000 square yards. To these are being added four other pavillions, occupying a space of 12,000 square yards. There is no such market in any other capitol of Europe.

WHAT ARE CONSIDERED THE BEST ENGLISH PEARS?—At a recent meeting of the British Pomological Society, a great number of varieties were placed for competition, and the first prize was awarded to *Duchesse d'Angoulême*, from Mr. Whiting, of the Deepdene; and the second to Mr. Ingram, gardener to J. J. Blandy, Esq., of Reading, for *Beurre de Capiamont*.

AN ENEMY OF THE PEAR TREE.—At a late meeting of the British Pomological Society, F. J. Graham, Esq., of Cranford, read a paper on the ravages of the grub of *Zeuzera Aesculi*, on young Pear plantations, which was accompanied by a figure of the insect, and a specimen of the stem of a young Pear. The stem had been completely eaten all round under the bark, and beyond the alburnum, causing the whole of the upper part of the tree to die off. As this insect has not yet been noticed here, a watch should be kept on European pear trees against its introduction.

Horticultural Societies.

LIST OF OFFICERS OF HORTICULTURAL AND POMOLOGICAL SOCIETIES.

For the information of those who wish to correspond with the different societies, we furnish a list of the Officers of as many of them as we have been able to procure, and hope to be furnished with any that are omitted. We insert only those societies of a strictly horticultural or pomological, and not of an agricultural character.

HORTICULTURAL SOCIETIES.

Name of Society.	President.	Cor. Secretary.
Pennsylvania, Phila.	M. W. Baldwin,	William Saunders.
Massachusetts, Boston,	Joseph Breck,	Eben. Wright, of
Brighton.		Dedham.
Maury County, Col- umbia, Tenn.	M. S. Frierson.	
Chicago Gardener's, Chester County, W. Chester, Pa.	J. K. Eshleman,	Josiah Hoopes.
Buffalo, N. Y.,	Jason Sexton,	William Coleman.
New York, (City)	John Grushon,	Thomas Hogg.
Cincinnati, Ohio,	William Orange,	E. P. Crach,
Montreal, Canada,	Ja. Ferrier, jr.,	L. N. Duvernay,
St. Louis, Mo.,	William Glasgow, Jr.	Carew Sanders.
Cleveland, Ohio,	Dr. Edward Taylor.	
Genesee Valley, Ro- chester, N. Y.,	Joseph Harris,	C. W. Seelye.
Brooklyn, N. Y.,	Jno. W. Degrauw,	Edwin Scott.
Portland, Maine,	T. C. Hersey,	John W. Dana.
Kentucky, Louisville,	Thos. S. Kennedy,	Ormsby Hite.
St. Catharines, C. W.,	James Taylor,	Thomas Shaw.
Richmond, Indiana,	John H. Hutton,	W. R. Smith.
Keokuk, Iowa,	A. Bridgeman,	J. L. Tewksbury.
Fort Wayne, Indiana.	J. D. G. Nelson,	H. C. Grey.
College Hill, Ohio,	Jacob Tuckerman,	D. B. Pierson.
Workingmen's, Frank- ford, Philadelphia,		Thomas Hargreaves.
Progressive Gardener's Society, Philada.,	W. Saunders,	R. Robinson Scott,
Meramac, Mo.,	Dr. A. W. McPherson,	Edward Vaughan.
St. Paul's, Minnesota,	Alexander Buchanan,	George Scattian,
Pittsburg, Penna.,	J. Knox, Pittsburg,	Thomas L. Shields.
York County, Pa.,	E. Chapin,	Edward J. Evans.
Toronto, Canada,	Hon. G. W. Allan.	
Hamilton, Canada,	(?)	
Cobourg, Canada,	(?)	

FRUIT GROWERS' SOCIETIES.

Name of Society,	President.	Cor. Secretary.
Western New York,	B. Hodge, Buffalo,	C. P. Bissell, Roch'r.
East'n Pennsylvania,	Dr. J. K. Eshleman,	Thomas N. Harvey,
Downingtown, Pa.,		Jennersville, Pa.
Missouri,	Norman J. Coleman,	Dr. L. D. Morse, Allen
Anna, Union Co., Ill.,	E. Harwood,	A. Babcock,
Ohio Pomological,	A. H. Ernst, Cin- cinnati, Ohio,	M. B. Bateman, Col- umbus, Ohio.
Am. Pomological,	Marshall P. Wilder, Dorchester, Mass.,	Meets in Philad'a, September 11th.
Conn. Grape Grow's,	Col. D. S. Dewey, Hartford, Conn.	M. C. Weld, Hart- ford, Conn.
Wilmington, Del.	H. F. Askew,	Dr. G. Pepper Norris.
Am Wine Grow's Asso. Cincinnati, Ohio.	Dr. N. B. Shuler,	S. W. Haseltine.

PENNSYLVANIA HORTICULTURAL SOCIETY.

Stated Meeting, held May 15th, 1866.

The display was not equal to last month, which is probably occasioned by the gardeners being too busy to devote the time necessary to prepare their articles. There were, however, some fine plants exhibited.

The Committee on Plants and Flowers made the following awards: For Cactaceas—best to James Thomas, gardener to A. J. Bucknor. Collection of ten plants—best to John Pollock, gardener to James Dundas; second best to Wm. Joyce, gardener to M. W. Baldwin; third best to George Penn. Collections of Six Plants—best to James Eadie, gardener to Dr. Rush. Specimen Plant—best to M. Hegarty, gardener to Jos. Harrison; second best to R. Brist, for Azalea, Eulalia Van Ghent. Pair Specimen Plants—best to John Pollock. New Plants—premium to R. Brist for *Cakileum argyrites* and *C. Chantini*; special premium to Jas. Eadie for collection of Begonias, including 2 new ones: *B. Nebulosa*, and *B. Urauna*; to R. Brist for collection of Rhododendrons, and to Jas. Eadie for a very handsome and varied general collection. The Committee call particular attention to the variegated plants exhibited by R. Brist; they will prove to be great acquisitions to our variegated foliaged family; also the general collection exhibited by James Eadie.

The Committee on Fruits awarded a premium for the best Grapes, (Black Prince), to John Landers, gardener to S. T. Altomus; second best (Black Hamburg), to Wm. Joyce, gardener to M. W. Baldwin; they also recommended a special premium to Wm. Joyce for a pair of fine Pine Apples; and also to John Pollock for *Ananassa sativa* variegata, for variegated Pine Apple, in fruit, (see frontispiece); and also call attention to a dish of fine Figs from Jas. Matheson, gardener to F. Yarnall.

The Committee on Vegetables awarded:—For the best Cucumbers to Thomas Meghran. Rhubarb—best to James Jones, gardener to Girard College; second best to A. Felten, gardener to Henry Duh-ring. Beets—best to Thomas Meghran. Potatoes—best to A. Felten; second best to Thomas Meghran. Asparagus—best to Jas. Matheson; second best to Wm. Joyce, and a special premium to same for fine Cauliflower.

The relative merits of white and green Asparagus excited some discussion, and was referred to a special committee, to report at the next meeting.

The death of one of the founders of the society, Mr. Alexander Parker, was announced, and the usual resolutions passed.

A large number of new members were proposed and some elected.

ANNUAL MEETING OF THE MONTREAL HORTICULTURAL SOCIETY.

The annual meeting of the Montreal Horticultural Society took place on Friday evening last, in the Mechanics' Hall. The chair was occupied by J. Ferrier, Jr., who after alluding to the long establishment of the Society, of its vicissitudes, and of the success which had attended its efforts, spoke of the great advantages which would be afforded in the establishment of the Crystal Palace, where ample space would be provided for an Exhibition of the Industrial Arts, the Agricultural Products, and the fruits, vegetables and flowers of the country. He expressed the hope that every member of the Society would do his utmost to promote the success of this great enterprise, which would no doubt afford the highest gratification to our Royal Visitor, and reflect honor upon the country. He then called upon the Secretary to read the

FOURTEENTH ANNUAL REPORT.

From it we learn that the severity of the previous winter destroyed many valuable fruit trees, thus preventing so large an exhibition of fruits as, otherwise, there might have been. The number of competitors for the prize of grapes, is constantly increasing. Of vegetables there was good display, and the same may be said of flowers and designs. Your society was again indebted to their valued friends who, as on former occasions, to great inconvenience and expense, sent them Greenhouse collections, to add to the attractions of the Hall. Last year the Greenhouse of Donald Ross, Esq., Jas. Ferrier, Jr., Esq., and J. Torrance, Esq., were open to members several times during the winter, and afforded much gratification.

Your Board have received an invitation from the Board of Arts and Manufactures to assist in the Grand Provincial Exhibition to be held in August, in honor of the visit of H. R. H. the Prince of Wales, and to take charge of the grounds around the Crystal Palace, now in course of erection.

The letter of the Board of Arts having been read, the members expressed their warmest interest in the proposed Exhibition, and their wishes to co-operate in promoting its success. It was then moved by L. N. Duvernay, seconded by J. E. Guibault, that the proposition of the Board of Arts and Manufactures, to take charge of the grounds around the Crystal Palace, be accepted, and that the following gentlemen (be a Committee to superintend the laying out of the same and to co-operate with the Board of Arts in the embellishment of the grounds, provided the funds of the Society be not taken for that purpose:—the Chairman, J. Lowe, and J. Archibald.

TO THE VINE GROWERS OF THE U. S.

At a late meeting of the "Aiken Horticultural and Vine Growing Association," it was resolved, That a committee of five be appointed

to open a correspondence with the various Vine Growing Associations in the United States, and to ascertain the practicability of holding a Vine Growing Convention in Aiken some time next summer; and if found practicable and expedient, that the committee take such measures to secure this object as they may think proper, and that they report the result of their proceedings to this Society at its meeting in May next.

The following gentlemen were appointed the committee: Messrs. A. DeCARADEUC, Chairman; McDONALD, RAVENEL, REDMOND, and WOOD.

It is perhaps proper to state the object of the Association in proposing such a Convention, and to point out a few of the advantages to be derived from it. In the first place, it is necessary to come to some understanding about the names of the Grapes now under cultivation, as it is evident that great confusion exists in that respect. Most of the vines being known in different places by different names; the Black July, for instance, having five synonyms. Thus it often happens that a Vine Grower reads or hears great praises of a Grape whose name is unknown to him, and a description of which tallies with none that he has; he procures it at great expense, cultivates it with care for two or three years, and ultimately discovers it is identical with some other he has had a long time. This is discouraging, and has deterred many from procuring new and valuable varieties, which it would have been advantageous to have cultivated more or less extensively. This difficulty can only be obviated by a Convention such as is proposed—the best written description never being so lucid as to convey an exact idea of a fruit.

The meeting will take place at a season when the fruit at the South is ripe; all who attend are invited and requested to bring samples of their Grapes, ripe if possible, and green if otherwise, with a leaf and a piece of the wood, and names and synonyms attached. Those who cannot attend are requested to forward samples as above. Thus if we are assisted by the good will of a majority of Vine Growers, most of the varieties in the States will be represented; their qualities, names, synonyms, sizes, degrees of maturity, etc., will be compared, and a vast amount of invaluable information derived. Names will be agreed upon, accepted or rejected with good authority. Persons will, also, be requested to bring or send samples of the wild grapes from their neighborhood in the same manner, that the different species might be finally determined upon and each grape properly classed under its own head or type—an object of great importance to the Botany of the country and, perhaps, finally to the making wine from them. We are daily getting additions to our list of natives, and unless a correct nomenclature and classification be at once made, we will be thrown into inextricable confusion, expensive and troublesome to the growers. Another object of the Convention is to determine upon some manner of naming the different Wines. The present way of calling them by the name of the grape is in direct contravention to the established rules of wine growing countries. It has always been customary to classify wines by the name of a State, Province or District, with the different brands attached to them, according to the name of the particular locality. Thus the general name "Wines of the Rhine" comprises many particular brands, such as Hockheimer, Johannesberg, etc., etc. Bordeaux wines include Chateaux Margaux, St. Julien, La Rose, etc. The reason for this is very obvious. The same grape will make totally different wines in different places. And, again, in most wine countries, (and we will no doubt adopt the same course) the grapes are mixed. A wine made from a mixture of Catawba, Isabella and Warren could not be called by either of those names.

At present we have a hundred different Catawba wines, no two of them alike. Hence, the propriety of rejecting the name of the fruit in favor of the time-honored custom of naming after the State, District or River, with brands of private names or localities. Purchasers will then know at once what they are buying, and will not be prejudiced against Catawba or Warren wine, because they have tasted worthless Catawba or Warren wine.

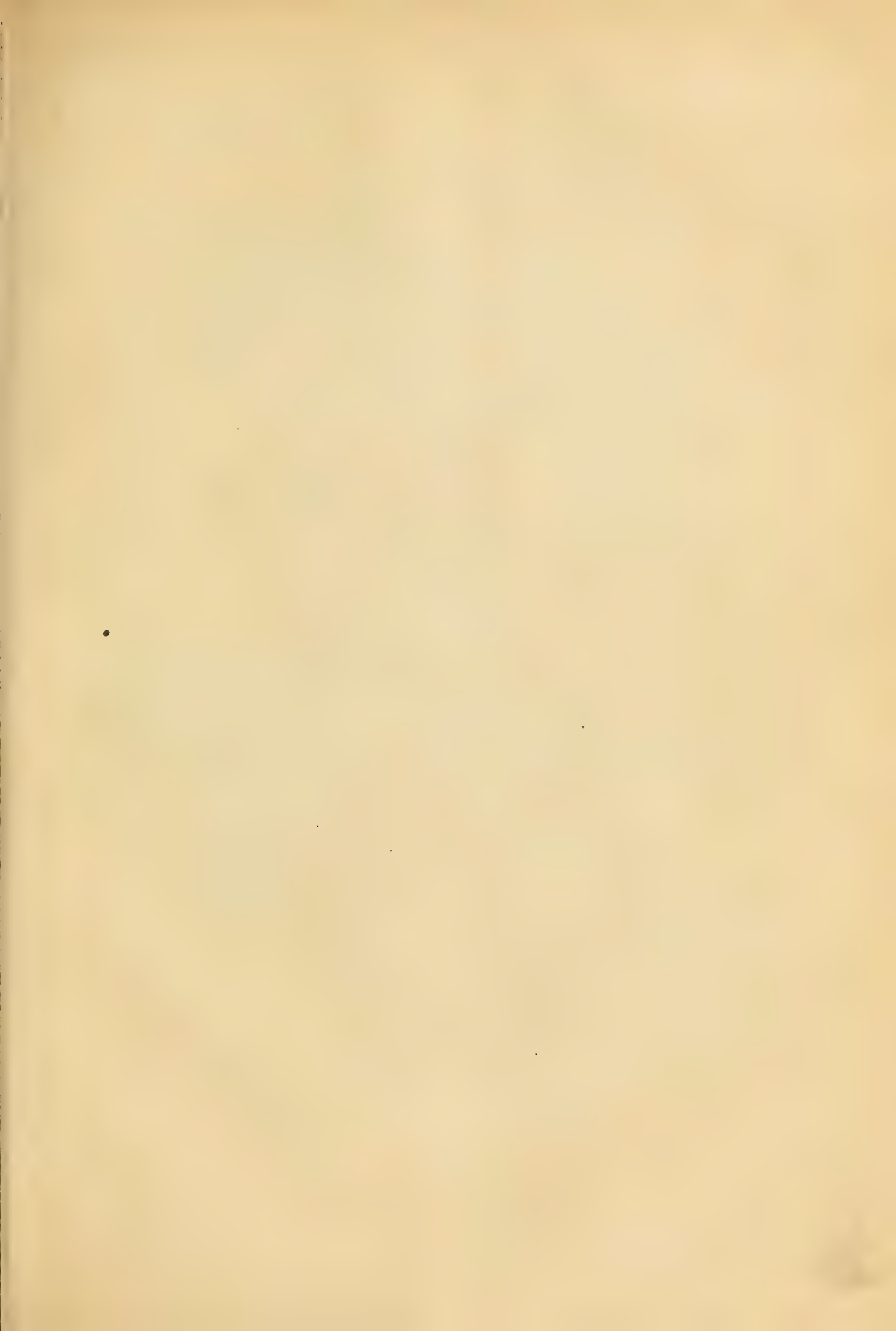
Independently of the foregoing, the amount of information exchanged by persons meeting in such a Convention as we propose, would be truly worth "Millions to the Nation," and would tend more to develop than rich culture than all that could be written.

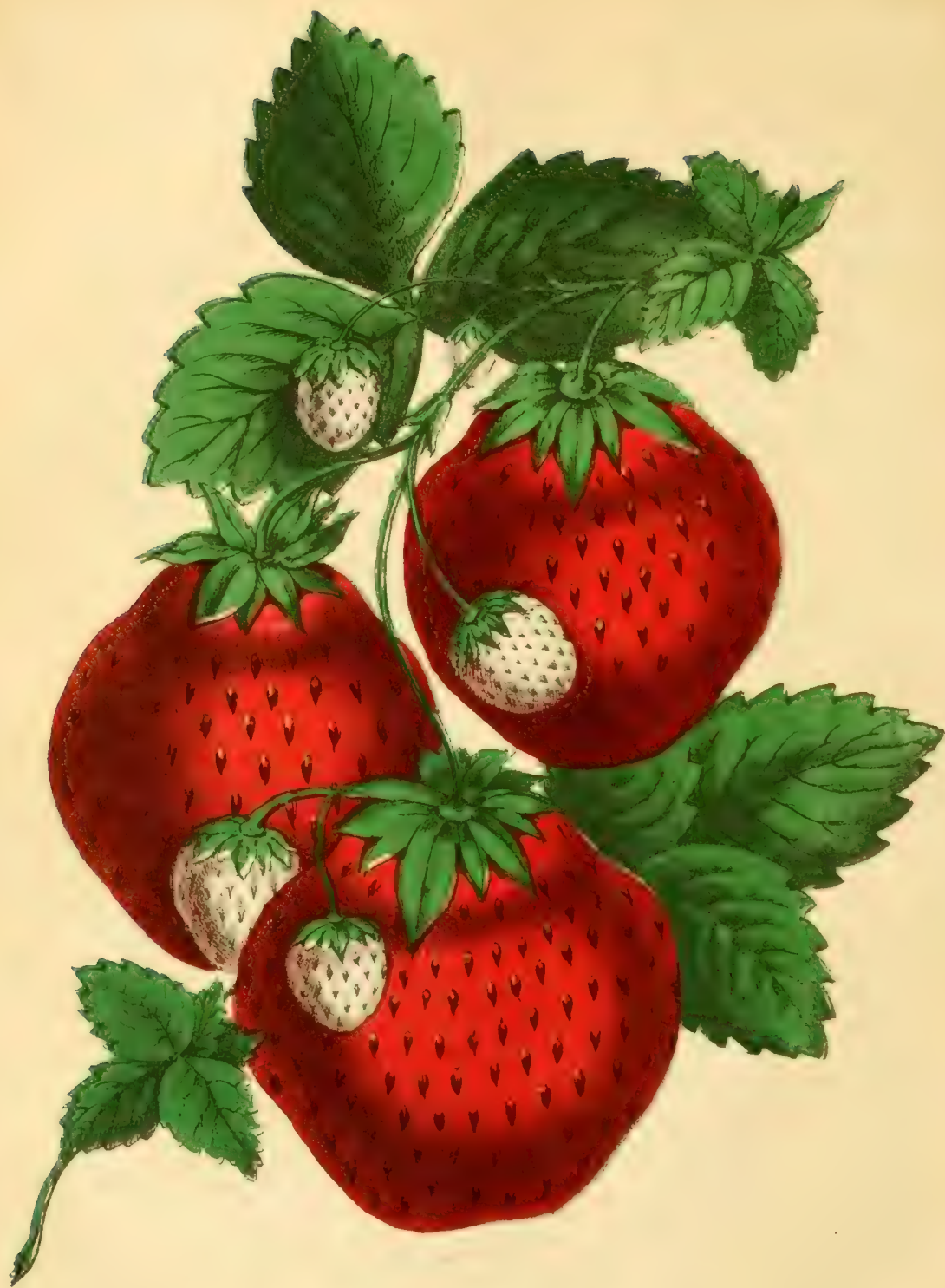
We call, then, upon all who cultivate the Grape, whether for the table or for wine, or who take an interest in the success of its culture, to assist the committee in securing their object—a Convention of Delegates from all the Vine Growing Associations in the United States, and of private and separate Vine Growers. Let all who can come, determine at once to meet in Aiken, S. C., on the *Third Tuesday in August next*, (21st) there to assist in the good work—to compare their fruit and exchange their views.

Aiken has been selected as being easy of access from all quarters—North, South, East and West—being, at all times, unexceptionable to health, and a delightful summer resort to the neighboring cities, and well provided with ample accommodations.

Secretaries of the different Associations connected with the Vine Culture, would confer a favor by forwarding to this office, or to either of the gentleman of the Committee, the names and localities of their Societies, and all other information they may think proper.

A. DE CARADEUC, Chairman, Woodward, S. C.
DR. J. C. W. McDONALD, Woodward, S. C.
H. W. RAVENEL, Aiken, S. C.
E. J. C. WOOD, Aiken, S. C.
D. REDMOND, Augusta, Ga.





WIZARD OF THE NORTH
STRAWBERRY

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

JULY, 1860.

VOL. II.—NO. 7.

Hints for July.



FLOWER GARDEN & PLEASURE GROUND.

In our last we gave a few hints for the management of perpetual Roses so as to secure a good bloom through the fall. Popular as this class of roses has been, it is destined to become still more so, especially as climbing roses. The few past winters—the last especially—have been so very destructive on the Noisette roses, the kind mostly employed as climbers, that a race of good hardy kinds becomes a great desideratum. This will yet be accomplished with the hybrid Perpetual and hybrid Bourbon classes. The new *H. P. Garibaldi* proves quite as rapid a grower as the *Baltimore Belle*, and will no doubt be extensively employed as a climber. Among hybrid Bourbons *Souvenir d'Anselme* proves particularly hardy, and will drive *Gloire de Rosamene* entirely out of cultivation as a pillar rose. We call attention to this matter at this season because now is the time to take notes of such as grow strong and vigorously.

In many gardens there will be roses of poor and inferior kinds, or of good ones that the owner may desire superseded by better ones. This may be readily accomplished by budding or inoculating, and now and next month is the season to operate.

In almost all works on budding it is recommended to take the wood out of the bud to be inserted. This is necessary in the English climate, but unnecessary here, and never followed by practised hands.

Amateurs may have some rare or choice shrub they may desire to increase. They may now be propagated by layers. This is done by taking a strong and vigorous shoot of the present season's growth, slitting the shoot a few inches from its base, and burying it a few inches under the soil, or into a pot of soil provided for the purpose. The young growing point of the shoot should be taken out in the operation. By

the English mode of making the slit, a great number of the shoots will be broken and spoiled. At page 86 of our last volume we described a new process by which injury will be prevented. Any thing can be propagated by layers; and it is an excellent mode of raising rare things that can be but with difficulty increased by any other.

Hollyhocks will be coming into bloom at this season. They have now become so much improved as to be one of the most popular flowers for the summer decoration of the flower garden. If the kinds are kept carefully separate, any particular variety will reproduce itself from seed. They may be more certainly kept pure by cuttings of the flower stem;—each bud will make a plant. The seed should be sown as soon as ripe in a light rich soil, in the open air. If retained till late in the season they will not, probably, flower the next year.

The raising of new varieties of florists' flowers is an interesting occupation to the amateur. The process of hybridization, described in our last number, applies to all plants as well as to grapes; but good improved kinds of some things may be obtained from chance seedlings. The finest and doubtest of Roses, Petunias, Dahlias, Carnations, &c., should be selected, and as soon as the petals fade, they should be carefully removed, or they will cause the delicate organs of reproduction to decay before maturity. A flower may be so very double as not to bear seed at all as in, the case of the Gillyflower or Stock; but if the pistil remains perfect, as it usually does, seed will ensue.

Dahlia seed may be preserved till the Spring. Antirrhinum, Rose, Carnation, and such hardy perennials, should be sown soon after ripening.

Dahlias will require watering in hot dry weather, which is done by making a small basin about the plant, filling it with water, and when it has thoroughly soaked away, some hours afterwards, the soil should be drawn back as lightly as possible into the basin. All plants that require watering should be similarly treated.

The Chrysanthemums should be examined, and if the shoots thrown up are thickly together, some of them should be rooted out. If the flower shoots are layered into four or six inch pots, they make very pretty dwarf plants, that are well adapted to neatly

ornament a room or small conservatory, where larger plants would be objectionable.

Fuchsias in pots should have the coolest position of the flower garden assigned to them. They usually suffer much from Red Spider, which makes their leaves drop. The various remedies we have so often recommended should be applied. Frequent heavy syringings are particularly grateful to the Fuchsia.

The next two months will be the trying time with such plants as Auriculas, Cinerarias, Calceolarias, and others which cannot endure the dry atmosphere of our Summers. When the shaded houses we recommended in our last number shall become more common, they will be grown as easily as weeds. We keep our Auriculas all the year round under glass, with the best results. They would do as well under any light enclosure that would prevent the too rapid escape of moisture. A sunk pit would be an admirable contrivance for them, besides making a good place to store away half hardy plants through the winter.

In most kinds of soil the keeping the surface loose by hoeing and raking in dry weather will be an excellent method of keeping the main body cool and moist,—admitting the air, which is a good non-conductor. In soils, however, which are deficient in loam, and in which sand prevails to a great extent, frequent stirrings have a drying tendency, and a mulching of short grass, or decaying vegetable matter of any kind will be found very useful around transplanted trees, shrubs, and other things.

The summer-pruning of hedges and ornamental trees and shrubs, that require to be brought into particular shape, will be sedulously attended to through the season, according to former directions.

FRUIT GARDEN.

Where new Strawberry beds are required to be made that will bear well the next season, the very first runners of the season should be selected, and layered into small pots. In about three weeks they should be cut from the parent stem, and left to a separate and independent existence for a few days. After preparing the ground properly for their reception, the pots should be well watered and the plants turned out into the spots designed for them. They will then grow finely the present season, and bear surprising crops of fine fruit the next Spring.

A warm sandy loam is the best for a Strawberry bed. A low and damp one, is of all the most objectionable. Though warm and dry in one sense, it should be rendered capable of retaining moisture in the driest weather, and this can only be perfectly accomplished by draining and subsoiling. If the latter is done three feet deep, all the better.

Unless in a very sandy soil, a very heavy dressing of stable manure is objectionable. Wood ashes,

ground bones, and matters of a mineral nature are far more advantageous.

Strawberries for forcing are treated in pots, as we have already described; but instead of being transferred to the open ground, when well rooted in the small pots, are repotted into five or six inch pots, and these latter plunged in the ground to their rims in a spot the most favorable to Strawberry growth.

After having grown well, and when they show signs of having formed a good strong crown, they are to be taken out of the open ground and gradually ripened by withholding water,—taking care that it is not done so suddenly as to make the plants wither, or they will suffer much. Towards winter they can be set in a cold frame and covered with dry leaves for a slight protection from the frost till wanted. Many commence to force at the beginning of the new year, when they are brought into the greenhouse and must be set near the glass. A high temperature is fatal. 45° to 50° is sufficient for a few weeks, and 55° to 60°, when the fruit is fairly set. They love to be frequently syringed, and guarded against Red Spider, which is their greatest pest. Where there is not the convenience of a greenhouse to force Strawberries, they may be had a few weeks earlier than usual by making a piece of ground slope to the south-east, planting out as already described for garden culture, and then setting a glass frame over them. The nearer the frame and glass can be brought to the soil, the better and earlier will the crop be. Protecting from frost in Winter also adds to the earliness of the crop. The earliest variety to be had in the locality should be employed.

The thinning of fruit,—watching of insects, especially borers in Dwarf Pears, Quince, Apple and Peach,—and summer-pruning, are the main subjects of attention at this particular season. Where the soil is not very good, as may be noted by a weak growth of the trees, a surface manuring may be yet given with advantage. Every day's experience more decidedly shows the great advantages to the pomologist of this method of applying manure.

VEGETABLE GARDEN.

Beans and Peas may still be sown, if done at once, with a fair chance for a late crop. The earliest kind of corn may also be sown with a chance of its coming into use, if it escape the grub. Drumhead Cabbage and Savoy may also be set out still in good rich soil, where they will yet have time to head before frost in the Middle States.

The main crops requiring attention now will be Celery, Endive for salad, and Turnips. The latter merely to have a few early. August being the season for the chief or staple crop.

So many hints have been given on Celery culture

in our columns that we need not offer any here. A communication at page 70 we may refer to as being of great value to the amateur.

There have been many ways recommended for staking and supporting Tomatoes. The finest fruit, and indeed, the heaviest crops, are obtained by allowing them to trail on the ground. The soil between the rows being first heavily mulched with short grass from the lawn mowings to keep the fruit clean. This method is coming into almost general practice in this neighborhood, through its tested excellence.

Where they grow too rank, and the branches mat too closely, they should be thinned out. Nothing is gained by leaving many shoots grow together, either in this or any crop.

Beets may still be sown for Winter use, if the crops sown last month are likely to be deficient.

Communications.

FERNS.

BY SAMUEL L. BOARDMAN.

These are interesting plants, and I think their culture too much neglected by our amateur florists and gardeners. Shall I call attention to them through the pages of the *Monthly*?

Ferns are flowerless plants, and their beauty and elegance are due to the leaves or fronds, which bear upon their lower face the seeds by which they are propagated. It has not been many years that an interest has been given to the cultivation of plants which have only an ornamental foliage; but since this change has taken place,—to use the language of an intelligent cultivator,—“many a long neglected specimen has been brought forth to add its elegance to our hothouses and conservatories, which formerly occupied a place under the stage, or in any out of the way corner; its very graceful appearance not being considered as an equivalent to a few blooms.”

Plants with attractive and beautiful foliage, yet having no flowers, are often of more importance and of greater beauty than such as have pretty flowers with scanty or short-lived foliage.

Ferns (or in common language, *brakes*) are of the former class, and as they can be easily managed, are eminently worthy of all the attention bestowed upon them.

The principal requisites of their culture are shade, shelter and abundance of moisture; with leaf-mould and a few rotten logs; and little else necessary in the way of cultivation to render them an attractive part of ones garden, which perhaps, has before been a waste spot.

I have said above, that “shade, shelter, and moisture,” are nearly all that is required for the growth

of Ferns, but it must also be remembered that heat is also as important if properly regulated, as the others. To grow them successfully, they should be potted in a soil composed of peat, leaf-mould and loam, with some sand and charcoal. They are not benefitted by manure. In their artificial cultivation, as has already been mentioned, Ferns must not lack moisture, or their fragile texture shrinks as before a burning blast.

Wherever the Ferns appear, whether it is the herbaceous species of temperate latitudes, or the arborescent species of the equatorial regions, or the epiphytall species which clothe the trunks and branches of trees in tropical forests, they add a peculiar and marked character of beauty and luxuriance to the scenery, and that to an extent which is not realized by any other race of plants.

One of the most interesting ways for the amateur to grow Ferns consists in their cultivation in Warden Cases, as many species are fitted for this purpose.

In the garden, the most appropriate place for Ferns, seems to be in rockwork. A recent writer in giving directions for forming a rockery says: “If the garden contains any slope or shelving bank, where protruding rocks would look *natural*, let such a spot be made use of. Cast in a variety of stones and other massive boulders common to the neighborhood, and arrange them as near as possible as nature does, burying the ends of some in the ground, filling the crevices partly with dirt and rotten sticks, setting plants by the side of them and trailing vines to climb over them. There should be an apparent attempt to *conceal* the rockwork, not to display it.”

One argument in favor of cultivating Ferns, is that the enjoyment it affords may be had by the poor as well as the rich; and he who has only a dark shady corner of land, may as successfully grow them as the one who has a magnificent conservatory, with this simple difference, that the former must cultivate hardy varieties, while the other may indulge in exotics.

In “British Ferns and their Allies,” a popular hand-book, published by Routedledge & Co., London and New York, the reader will find much that is interesting concerning their botanical structure, manner of propagation, culture, uses, etc. With some allowances in regard to climate, which the intelligent reader can modify, the work will be found a valuable treatise.

Brookdale Farm, Maine.

GRAFTING THE WILD CHERRY.

BY LOUIS BERGMANN, HAMILTON, OHIO.

I believe it is not generally known that the cultivated Cherry can be grafted on the *Prunus padus* successfully. Early this Spring I grafted a very large one with the Early May and Yellow Spanish, and

they have done well so far. There are but three failures amongst fifty grafts. Many of them have now pushed 18 inches. I intend to try many more next season.

[We presume our correspondent alludes to the *Prunus serotina*; the *P. padus* nearly resembles it, but is a native of Europe. If they would do well after uniting, it would make a good hardy and valuable stock. But some species of Cherry live but a short time on another species. We have frequently tried the rare Californian *Cerasus illicifolia* on the *Prunus* or *Cerasus padus*. They "take" easily, but invariably after pushing a few inches into growth, they die away entirely to the stock.—Ed.]

PROGRESS OF HORTICULTURE IN HINGHAM, MASS.

BY GEO. LINCOLN.

As your ever welcome *Monthly* brings the latest intelligence relating to the advancement of Horticulture at the North, South, East and West! perhaps a few notes from this section of the old "Bay State" may not be uninteresting to the majority of readers.

This ancient town, famous for its "Old Church," "Bucket Shops," and Summer Residences, is 14 miles South-east from Boston, to which it is connected by railroad and steamboat. With such facilities, it is not strange that some of Boston's prominent business men should select this locality wherein to build themselves homes after their own fancy;—many a rough and rocky situation has thus become smooth; and many a crooked place made straight, and barren spot made fertile—while the eye is gratified by the sight of modern built dwellings from hill-top and valley. The result in part is, that professional gardeners realize an increasing demand for their services; nurserymen are liberally patronized; mammoth vegetables and rare plants are introduced, &c., &c.

An Agricultural and Horticultural Society has recently been formed in this town, with the following list of officers:

President—Hon. Albert Fearing.

Vice-Presidents—Chas. Cushing and David Whiton.

Corresponding Secretary—T. T. Bouve.

Recording Secretary—Edmund Hersey.

Treasurer—Joseph H. French.

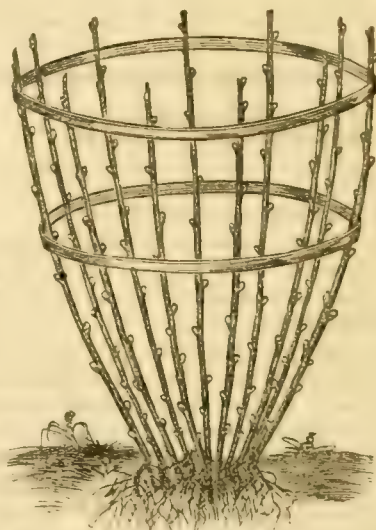
This society now numbers about two hundred members, has monthly meetings for display and debate, besides a yearly grand exhibition of stock, fruits, flowers, vegetables, &c.

I was much pleased with a recent visit to the garden and grounds of Mr. Alfred Loring, (within a stones throw of the spot where stood the original Cushing Pear Tree), South Hingham.

Mr. Loring in all his plans combines practice with theory,—is an earnest seeker after knowledge, wheth-

er it is derived from experiment or conversation; and further, does not condemn a truth because it happens to be found "in the books. His compost heaps are allowed to remain and pulverize two years before being used—receiving meanwhile much attention, and a liberal supply of soda ash. I noticed some splendid specimens of Apple and Pear trees, in an adjoining field of Carrot, as well as in the vegetable garden, that suggested by their smooth and glossy trunks and beauty of form, all that language could express relating to suitable nourishment and care for the growing tree.

His Currant and Gooseberry bushes, trained in the mode here presented, made quite an attractive ap-



pearance. The canes were neatly secured within hoops, which were fastened to stout stakes, suggesting order and regularity, besides economy of space, and rendering easy access in gathering the fruit.

On the North side of this garden enclosure, and within eight or ten feet of a substantial bank wall, is a row of about fifty Grape vines, consisting of Delawares, Dianas, Concord, Hartford Prolific, Winnie, Jennings Seedling, Isabellas, Ohios, and Catawbass. The border for these vines was excavated nearly three feet deep, and large stones, brickbats, and old mortar, thrown in for a bottom course; then rubbish, leather parings, horn scrapings, bones, and from 30 to 40 pounds of "old horse," to each vine, filling up with wood mould, well-rotted dung and unctuous loam.

It is with pleasure I notice this advance in our grape culture—formerly an Isabella or Catawbastuck into some corner, or allowed to run at random over the "back room," was the only collection, or system of cultivation, to be found in this section; but thanks to

the inventor of printer's ink, information is now easily obtained by those who seek instruction through the weekly and monthly journals devoted to rural affairs, &c.

I intended at the commencement to notice other places, but am aware that a communication to prove acceptable, must be brief.

SKETCHES of PHILADELPHIA BOTANISTS

BY L.

I.—PETER COLLINSON.

In your interesting sketch of Nuttall, in a late number of the *Gardener's Monthly*, you remark that "his name will be perpetuated amongst the votaries of science, not only by his labors and discoveries, but also by a beautiful genus of Rosaceæ, called, in honor of him, *Nuttallia*." On perusing this passage I recalled to mind other devotees of science associated with its advancement among us, all interesting to every one, and especially Philadelphians, who properly esteem the memory of the great and good who have lived and labored for us, whether in our midst or in distant lands, whose names will also be handed down to posterity, embalmed in the amber of botanical nomenclature.

Among the names that deserve to be held in grateful remembrance by Philadelphians, as the earliest patrons and cultivators of the "amiable science," stand those of Collinson and Fothergill, Bartram and Marshall.

Peter Collinson was a merchant of London, of comprehensive mind and of varied and extensive acquirements. Though diligently attentive to the details of business, he found time to cultivate a knowledge of Botany and Antiquities, and to maintain a correspondence on scientific subjects, which embraced every nation in Europe and extended in Asia as far as Peking. He was an ardent lover of nature in every form. In one of his letters to Sir James Edward Smith, he declares that every living thing called forth his affections.

A genial writer* grows eloquent while sketching the virtues of Peter Collinson. Reciting the characteristics of the Society of Friends in the following strain—"Their quiet virtues, happy amenities, and silent worth, do not attract the gaze of the world. * * Their simple habits, their industry, integrity and thrift; their pleasure in doing good; their intense interest in nature's handywork; their estimate of things conducive to comfort, peace and happiness over things luxurious and things ostentatious; their abhorrence of war; their active sympathy with all in distress, and their preference of the good name,

which is better than precious ointment or worldly glory," he adds, "all these peculiarities had a faithful representative in Peter Collinson."

He continues with the opinion which many will incline to doubt, that, "In their full representation we do not think the Society has produced his superior." One who understands the character of Peter Collinson as well as any man living, says "he was one of the earliest and most distinguished patrons of the Natural Sciences in the Society of Friends; and at the same time an honor and an ornament to the sect."

Doctor John Fothergill was a patron of Botany and most extraordinary man, whether we regard the remarkable success with which he practised his profession, or the unwearied benevolence with which he distributed the fruits of his labors in his generous patronage of every good word and work. Endowed by nature with a comprehensive intellect, improved by a sound and liberal education, he may safely be regarded as the most accomplished Quaker that ever lived, whether considered as a man of science or as a philanthropist. The writer to whom we have above referred, adds,—“While the Society of Friends may ever be proud of their great lawgiver Penn, the lovers of nature among them may boast of a Logan, a Collinson, a Fothergill and a Marshall; to each of whom a *genus* has been dedicated, that will preserve the memory of their worth and services as long as the plants which bear their names shall continue to grow.”

Though to Dr. Fothergill is assigned pre-eminence in science and philanthropy, "as a practical utilitarian, a helper of others to do good to their fellow-men, by enlarging the domains of science, to push their research through difficulties and dangers to earth's remotest bounds, and perhaps in some other characteristic excellencies, Peter Collinson surpassed him. Could we ask Dr. Franklin, 'who of all men best deserved a statue in commemoration of active, disinterested and valuable services in building up the Philadelphia Library,' he would say, 'Peter Collinson.' Ask Franklin again, 'from whom he derived the information, and who furnished him with the hints, and put into his hands the actual means whereby he made his splendid discovery of the identity of lightning and electricity,' and he will tell you, 'Peter Collinson.' He was the only man in the Royal Society at London, who appreciated Franklin's letters announcing his discovery, which, when first communicated, was frowned down, sneered at, and refused a place in their published transactions. Peter Collinson had them published, drew the attention of intelligent men to them, excited admiration of the wonderful secret disclosed, and was among the very first to force and proclaim Franklin's undying renown."

* Wm. H. Dillingham, in "A Tribute to the Memory of Peter Collinson, &c. &c. Philadelphia, 1852.

The patronage extended by Peter Collinson to John Bartram, greatly enlarged the field of labor of that great natural botanist, and enriched England with many trees and shrubs, which remain monuments of his taste and liberality. At Collinson's garden, at Mill Hill, the *Periploca græca* and numerous other trees and shrubs flowered for the first time in England. The place was kept up for some years by his son, afterwards it changed hands and fell into the possession of the Protestant dissenters, who established there a Grammar-school. A new house has since been built. In 1835 there stood in the grounds a Cedar, 60 feet high, its lowest branches reclining on the ground, and covering a space of 70 feet in diameter. Two *Pinus cembra*, with trunks nearly two feet in diameter, and from 50 to 60 feet high—the finest specimens of this tree in England. These are probably the plants presented to him by the Duke of Argyll; one brought from Siberia, 1753, the other from the Alps, 1761. There was also, in 1835, near his former residence, a Hemlock Spruce, 50 feet high, extending 40 feet in diameter. A cone of *Laurustinus* 20 feet in diameter at the base, besides several other trees and shrubs, evidently as old as the time of Collinson. To the credit of the proprietors of the school, these fine specimens are carefully preserved and the name of Collinson respected as it ought to be. Many of the rarest plants had, through mere ignorance, been rooted out by a former owner; trees scarcely to be found in perfection anywhere else in the kingdom at the time, and to contemplate which good old Peter wrote, in one of his copies of *Miller's Gardener's Dictionary*, at the age of 68, furnished his greatest source of happiness.

Peter Collinson was an intimate and valued friend of Linnaeus, who conferred the name of "Collinsonia" on a genus of labiate plants, the horse-balm of the fields. In several text-books it is said to have been named in honor of "John Collinson, an English botanist."

WINE MAKING AROUND CINCINNATI.

BY MESSRS. HASELTINE, BUCHANAN AND MOTTIER.

Feeling the importance of the Wine making interest to the community, we have engaged some of our Cincinnati friends to inform us as to the condition and improvements that are made, from time to time, in the head-quarters of Vine culture and Wine making. Messrs. Haseltine, Buchanan and Mottier, deserve the thanks of our readers for their kind responses to our inquiries.

The first letter is from Mr. Haseltine. He says: "I have collected these few facts for your *Monthly*, from Mr. Buchanan, a very successful practical man, and favorably known to the country; also Mr. Mot-

tier, who is a very enthusiastic cultivator, of thirty years' experience in America. Mr. Mottier's wine has taken several premiums and stands at the head of the list. He also has put in an acre of *Delaware Grapes* and speaks of them in the highest praise. You shall hear from him again on the Delaware, Herbemont and Cape. The drawings sent are from Mr. Buchanan's wine cellar, by an artist from the office of the *Scientific Artizan*. The numerous casks are arranged on a rack for the purpose, at such a distance from the wall as that a person can pass entirely around, to see that all is tight and no leakage, or for repairs. The communications sent will explain the use of the different drawings. The vintage of 1859, within twenty miles of Cincinnati, Mr. Buchanan estimates at 2,000 acres, averaging 350 gallons per acre. This at \$1 per gallon, nets an income of seven hundred thousand dollars; but much is sold at \$1 50 per gallon by the barrel or keg, so that the product of the vine here may safely be estimated at between 8 and 900,000 dollars. The many thousand vines and cuttings sold in this city this Spring, attest the progress that is going on. Our association will be able to test fairly this fall the following wines produced here, viz.: Catawba, Herbemont, Isabella, Delaware, Cape, Norton's Virginia, and probably several others. So soon we shall be able to suit the tastes of all in our own native wine, pure and good, then it will supplant whiskey and brandy—nothing else can. Many see this in the wine districts of Europe, and my own observations there confirm this belief. I should perhaps say that our best vineyards produced from six to eight hundred gallons per acre last year. The vines now look well, and the promise of an abundant crop is very flattering. We think our vines have now outgrown the effects of the cold winter of '56, and that the crops will be more uniform hereafter. Besides the wine made here last year, an enormous amount of Grapes was shipped all over the country. I sold all mine in baskets, and disposed of many of my neighbors in the same way. I hope we shall be able to get at the statistics this season, of what is doing in this way.

Three dollars per bushel was the market price. What can be more delicious than a plate of good ripe grapes for dessert, and as we may have them by the different varieties so long, it is another encouraging reason for all to plant. But I am writing too long an article, and will close for the present.

Respectfully yours, S. W. HASELTINE,
Secretary of Am. Wine Growers Association."

The next article is from the pen of Mr. Mottier, whose reputation as a first class manufacturer, the

reports of the Cincinnati Horticultural Society so fully attest :

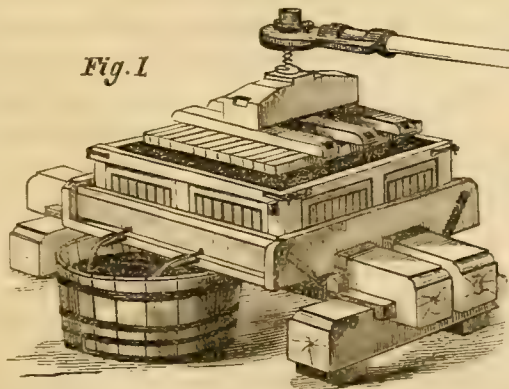
" To make good wine it is necessary to have a good cellar, clean casks, press, &c.

First of all have your grapes well ripened,—gather in dry weather, and pick carefully all the unripe berries, and all the dried and damaged ones from each bunch; then mash or grind them with a mill, if you have a proper mill for it. The annexed drawing Fig. 3, is of a kind much used here :



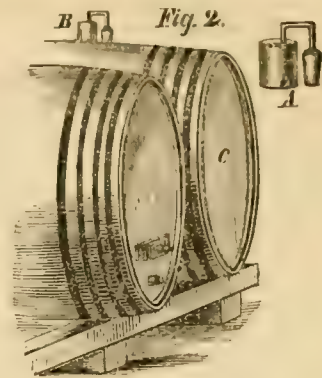
Be careful not to set your mill so close as to mash the seed up, or they would give a bad taste to the wine. If you wish to have wine of a rose color let the grapes remain in a large tub a few hours before pressing. The longer time you leave the grapes before pressing after they are mashed, the more color the wine will have.

For pressing the grape any press will answer, provided it is kept clean and sweet, but Fig. 1 is the kind most used here.



After you have collected the must in a clean tub from the press, have it transferred into the cask in

the cellar. Fill the cask (see C. Fig. 2) within 10



inches of the bung, then place one end of a syphon (see A. and B. Fig. 2) made for that purpose, in the bung, and fixed air tight; the other end in a bucket containing cool water, the gas then passes off from the cask without the air coming in contact with the wine, which would destroy that fine grape flavor which makes our Catawba wine so celebrated. When properly made the must will undergo fermentation. Keep the end of the syphon that is in the water fully four inches deep, so as to exclude the air from the wine. When it has fermented, which will be in about fifteen days, fill the cask with the same kind of wine, and bung it loosely for one week, then make it tight, nothing more is needed till it is clear, which if all is right, will be in January or February next, then if perfectly clear, rack off in another clean cask, bung it up tightly until wanted. If the wine remain in the cask till Fall, about November it will improve by racking it again, and be sure to always have sweet clean casks. Do not burn too much brimstone in the cask. I have seen much wine injured by excessive use of brimstone, generally by new beginners. For my part I make little use of it. You can make different qualities of wine with the same grape, by separating the different run of the same pressing; the first run is the finest, if you want to make use of it the first season; but it will not keep long without losing its fine quality. To make good sound wine improve by age, the plan is to mix all up together. The very last run will make it rough, but will have better body and better flavor when two or three years old, and will improve for a number of years. The first run will not be good after two or three years old. I have fully tested the different ways of making and keeping wine this last twenty-five years.

Respectfully,

JOHN E. MOTTIER.

Mr. Buchanan's article in the main gives the same information as that detailed by the other two gentlemen,—but the other items we shall insert in our

next. The cut of his wine press, however, we give above, and are much obliged by his permission to have the drawing taken for us.

POPULAR GRAPES--REBECCA.

BY A NEW YORK FRUIT GROWER.

The sweetest and richest of all grapes that I know, it being a compound of honey and refined sugar, and no one will need more than a bunch or two of it at a time, before he will find his appetite fully satisfied. We have several years' experience with it, and are willing to impart all we know about it to your readers, in hopes that some of them who have grown it will reciprocate, and we then can learn what localities are most congenial to it. Unfortunately it is rather delicate and sensitive, and apt to suffer from the sudden changes of temperature incident to our climate, and should be planted in a sheltered place, receive generous treatment and by no means be allowed to overbear, as that would be ruinous to it. I fear it will never become popular in the vineyard, as it is not as strong or hardy as the Isabella or Catawba, and more subject to mildew than either of those varieties, but in *every well kept garden* it certainly is indispensable. It is easy to propagate either from cuttings or layers, and in a few years it will be sold cheaply enough to be within the reach of even the poorest person in the land.

Wm. R. Prince's Descriptive Catalogue of Native Grapes, so fully and truly describes it, that I am induced to quote his description.

"Rebecca, an estimable seedling of the Golden Chasselas; medium size, amber, round, thin skin, juicy sweet, same flavor as its parent, more hardness of pulp than the European varieties; cluster medium, compact. It forms extensive shoots, but of slender growth. Its habit, sensitiveness, and proneness to mildew, accord precisely with the foreign Chasselas varieties."

"It ripens middle of September, but can never be adopted in vineyard culture."

SKETCHES OF SOUTHERN GARDENS.

BY J. W. JONES, CHARLESTON, S. C.

No. I.

Garden of the Rev. J. G. Drayton, at Magnolia, St. Andrew's Parish, twelve miles from Charleston, S. C., April 14th.

Having arranged to visit this place while yet in its beauty, I started off this pleasant Spring morning when every thing looks bright and gay, and nature is putting on her Summer dress. Over the long bridge across the dark Ashley, and we are fairly in the country. How warm and pure the air! How exhilarating to the poor pent up dweller in the city. Even

Rozinante, poor hack, pricks up her ears, whisks her "fly brush," and seems half inclined for a gallop. The pines look dark and sombre now among the fresh green leaves of the deciduous trees. The morning is warm, almost sultry; great coppery hued banks of clouds seem to promise the much wanted rain, for the dry sand is six inches deep in the road. A snug looking cotton plantation on the right, and a "farm" (in Charleston parlance) or, as you at the North would call it, a market garden or "truckery" (a yile word) on the left, with its acres of Peas, Potatoes and other vegetables coming on for the Northern market.

A ride of a mile and we turn to the right, taking what is called the River road. We are in the forest now where the trees arch over the road, and the atmosphere is cool. Wayside flowers are scarce yet. The yellow Jasmine, (*Gelsemium nitidum*), is waving its few last scattered flowers; its reign is over for the season. The modest little *Sisyrinchium Bermudianum* spreads its blue stars abroad, courting the admiration it so well deserves. The gay Atamasco Lily (*Zephyranthes* or *Amaryllis Atamasco*) is holding up its silvery cups to catch the rain which comes not. The Dogwoods flit like pale ghosts through the forest as we trot cheerily along. A few stray Honeysuckles (*Caprifolium sempervirens*), a few blue *Iris* in a ditch, and, more gay than all, the wild Azaleas (*A. nudiflora*), stand out conspicuously, decking the more open places with their beautiful flowers of all shades of pink.

Open country again. Polite negroes—some planting cotton, some plowing, some dropping guano or other fertilizers in the rows—all busy. Dark forests again. Everywhere Pines, Gums (*Liquidambar*), here and there a Tulip Tree (*Liriodendron*), Water Oaks (*Quercus laurifolia*), and occasionally a live Oak (*Q. virens*), spreads abroad its tortuous arms, clothed with the long pendant gray moss (*Tillandsia usneoides*) waving mournfully to and fro in the wind. Here is a whole avenue of these oaks, fine, majestic old fellows, how venerable they look in their long grey beards!

Entrance gates dotted along this dull road every mile or two, but alas! not a lodge to one of them. Scarcely a building in sight anywhere, yet I am passing through a populous neighborhood, but the houses and settlements are buried away in the woods. Now were there a lodge to each of these entrances the aspect of the road would be entirely changed; its dullness would disappear, for there would, ever and anon, be some new object to attract attention. There would be some signs of life. We should feel that we were in a cultivated country, and not in a wild forest. An entrance lodge, in some simple style, in an open sunny space, with a little shrubbery and flowers around, and tenanted by a pair of those old faithful

superannuated servants that are found on every plantation would form, as it were, an out post of the place—the connecting link between the plantation and the outer world.

But here I am at the entrance gate to Magnolia, my place of destination; and a noble entrance it is, though minus the lodge. Here is a fine avenue, sweeping down in a long descending vista. No underbrush, dead sticks, fallen trees or rank weeds,—I feel at once I am in a place where an eye is had to order. Down this long avenue, now spreading out into open park like scenery, a sweep round to the right and I am in front of the mansion. Before it a wide spreading grassy lawn, margined by wood and water, and by far the handsomest lawn I have seen in the South, composed chiefly of *Rotboellia dimidiata*, a low growing coarse grass, but forming a tolerable turf when well pastured.

The house stands on a bluff, overlooking the river Ashley, distant about 120 yards. In the space between the river and the house, but extending a considerable distance on each side, is the garden, about ten acres in extent, with (for this part of the country) a somewhat diversified surface. Some years ago the Reverend proprietor, driven by ill health from the study to the garden,—driven from man's highest occupation in his present cultivated state, back to his primitive business in the garden, "to dress and to keep it,"—he found not only renovated health but an enthusiastic love for all of nature's beautiful productions in trees and flowers.

Here was an old rectangular garden, with broad walks and narrow beds down each side, that had probably been planted with a few old fashioned trees and shrubs, the centres of the squares being used for vegetables. But at the time Mr. Drayton commenced operations, scarcely a vestige of the old garden remained, except a few old plants of *Illicium floridanum*. Without experience, and without an adviser, seeking rather health by active exercise than to make a fine garden, he buys his experience, rather dearly sometimes no doubt. Much that had been done was to do over again, and even a third time? but every year adds something to the garden, something to the stock of experience, and, as the results develop themselves, what was perhaps at first a toil became a labor of love.

As you stand here now at the head of this broad central walk, you look down an avenue of fine *Magnolia grandiflora*s, some of them seventy feet high, making a noble back-ground. In between, and in front of these noblest of evergreen trees, *Camellia japonicas*, *Chinese Azaleas*, and great variety of other evergreen ornamental shrubs are planted. These are not those scraggy looking drawn up things we are accustomed to see in pots. The Camellias are more

or less conical in form, branched and leafy to the ground, six, eight and even twelve feet high. But they are mere infants yet; they are only just beginning to put forth their strength. Here is a *Carswelliana*, which last season made numerous shoots, some of them two feet nine inches, and others three feet five inches in length; not in a few long watery shoots, but stout and well ripened, and now bursting a bud at almost every leaf for extended growth. Notwithstanding their vigorous growth these plants bloom abundantly; the wonder really is how they can perfect such a mass of flowers. Many of them begin blooming in October, and now, in the middle of April, they are but just passing away. When I say the collection of Camellias embraces 150 choice varieties, it will be seen that it is a good one; it includes, perhaps nearly all the fine newer varieties and a great many magnificent old ones—varieties that have gone out of fashion among pot cultivators simply because they are not regularly formed flowers. Place Sarah Frost here beside this great bush of Greville's Red. Sarah is very symmetrical, no doubt, very prim and of faultless form; but look at the great fiery globes of this rough old fellow. Stand off twenty yards and see the effect of each—one is a refined polished lady, fitted for the boudoir or conservatory; the other a rough old soldier, good in all weathers.

There are, perhaps, but few persons in this country who know Camellias better than Mr. Drayton. Here is a list of a few he particularly recommends:

IMBRICATED VARIETIES.

Alba pleno, Amabile, ALEXINA, *Candidissima*, Ellen, Fordii, Frankfortensis, Gen. Wayne, Henri le Fayre, INCARNATA, *Dunlop's Imbricata*, Miniata, Myrtifolia, Mrs. Feters, *Prattii*, Pictorum roseum, REINE DES FLEURS, Rosea sinensis, *Saccoi*, *Serratifolia*, *Spineo*, *Sweeti-vera*, William IV., *Duc d'Orleans*.

IRREGULAR VARIETIES.

Albertus, Chandleri, Versicolor, Conspicua, COLETHI, Concinna, EMILY, Eclipse, GILESII, Marchioness of Exeter, *Mammoth*, Variegata, WELBANKIANA, GREVILLE'S RED; and of single varieties, DONCKLAARII and Tricolor.

Those in *italics* are considered beautiful, those in SMALL CAPITALS the very *creme de la creme* for outdoor planting; hardy, prolific, showy and blooming, as Mr. D. says, "almost with the ice upon them," but all are good. No doubt many others might be added, it being rather a nice matter to settle which to exclude. There can, however, be no doubt about the following *black list*, viz.:—Martha, Duchesse d'Orleans, Elata, Gen. Washington, Picturata, Queen of Whites, and Sherwoodii; the first two and the fifth rarely open, the rest are utterly worthless and unsatisfactory. No doubt a few more might be added to this list also.

It must be remembered I am writing of Camellias in the open air; in pots, or in a greenhouse, one or two varieties on the black list are sometimes pretty good.

Of the above list, short as it is, there are some that would be rejected by pot cultivators, because they do not come up to the standard of perfect flowers; but wherever the Camellia is cultivated as a hardy evergreen shrub, all those varieties recommended above are indispensable. Here, where the plants are scattered over so many acres, the eye does not pause to examine particular flowers. Each flower, though a beautiful object in itself, is lost in the mass, it is but an atom in a grand combination. It is the plants only that stand out as separate and distinct objects, forming masses of color, clearly defined and thrown out by the dark green of the foliage.

When we look down on a well arranged flower garden, where each bed is a mass of one color, if these masses are harmoniously arranged, we look to the effect produced as a whole; we do not examine it analytically flower by flower, but rather mass by mass, for each mass stands out and forms but one object though made up of thousands of separate flowers. And so it is with these gorgeously colored flowers, it is the effect they produce when seen in masses, and not to the individual flowers we look. When these trees of which I am writing have attained a height of 20 or 30 feet, which they will do in a few years; when they have lost the conical and taken the spherical form, which they will do ultimately; when all these acres are studded over with such trees, each producing its thousands upon thousands of flowers, then it will be seen that color, not form, ought to be matter of first consideration.

In the greenhouse it is quite a different matter, there the eye is prepared to go into detail, and finely formed flowers may be the most desirable. Mr. Drayton does not reject these finely formed flowers, he plants and admires them much; but it is a matter of regret to him that so many of the finer old varieties are now so difficult to obtain.

I was much pleased with two or three flowers of a Camellia called Low's Sovereign, a double white with, occasionally, a single dash of rose. It is a fine bold looking flower, with broad, almost circular petals, quite distinct.

The Camellia bears seed freely in this climate, and I have no doubt were pains taken in hybridizing scientifically, that an abundance of varieties might be raised. Mr. Drayton has numerous seedlings, some of them large bushes bearing irregular flowers, and not named. There is one, however, called Mrs. Drayton, that seems well worthy of propagation, being a beautiful pink, of perfect form. Something in the way of Henri le Favre or Saccoci, as well as I

could make out from the few half withered flowers that remained. Here too is a large bush that has been raised from a sporting branch of Feastii, quite as distinct and superior to its parent; that has been named Julia Drayton, in compliment to a beloved daughter.

I was much too late for the Camellias and fully two weeks too late to see the Azaleas in perfection. The collection contains nearly 100 varieties. Though past the best, some of them are still very beautiful. Here is a magnificent plant of *Phanecia*, nine feet high and nine feet in diameter; a *coccinea*, eight feet high and twelve feet across; a *Majestica*, seven feet high and twelve feet through. Huge plants of *Speciosissima*, *Williamsii*, *alba*, *Ascendens*, *Conqueror*, *Formosa*, *Van Houttii*, *Excelsa*, *Indica*, *Iveryana*, *Magnifica*, *Triumphans*, *Van Gertiana*, *Villata*, *Variegata*, and others of the older varieties. Though the effect was somewhat marred by the withered and drooping flowers, these plants were still masses of flowers spreading out in large sheets. There were so many fine objects, so much to see and to talk about, that the note book was forgotten. So many new sorts to examine, and their merits to be canvassed, that to describe all would be to write a book. It is enough to say that the cultivation of Chinese Azaleas is here a decided success, and of all hardy, evergreen flowering shrubs, next the Camellia, the Azalea must rank the highest. Like the Camellias they are planted about everywhere, in lines, in groups and in single specimens; the greater part of both being planted in the full open sun.

At the north end of the grounds; and shut in entirely by trees, is a pretty little flower garden of half an acre or more, evidently a pet affair. On the west side is a pretty ornamental sheet* of water, fringed with *Cupressus disticha* and other trees. In this garden is a small collection of Rhododendrons, which look very well, but the climate does not seem to suit them exactly. They grow freely and form plenty of flower buds; but, unfortunately, the greater part of the buds burst into flower in the autumn instead of in Spring. The fact is with these, as with many other plants from colder climates, our long hot summers act upon them like the winters of colder climates; they remain in a dormant state, and as soon as colder weather sets in, they begin to grow. I may here remark that plants from higher latitudes or colder climates are often killed here, where plants really less hardy escape uninjured. This is caused by our long hot summers. The plants from cold latitudes take a three month's rest in Summer, and begin growing again in October, so that they are caught in a grow-

* I use this word "sheet" as preferable to *pond*, which is a word ignored amongst landscape gardeners. To call a small *piece* of water a *lake* is, I think, equally a misnomer. *Lakelet* is, perhaps, the proper and most expressive term.

ing state by frosts in November or December. After a time most plants become used to the climate, and this may be case with Rhododendrons. I think if they were planted more in the shade, and in a damp peaty soil, they may yet rival their relatives the Azaleas. Much has yet to be done in crossing these two genera (Don will have it they are not botanically distinct).

I shall not dwell on the contents of this little garden, it is a sweet spot, filled with "flowers of all hue." Roses, Verbenas, Tulips, Pæonies, Gladioli, Oxalis and a score of other things all in full bloom.

Though the Camellia and Azalea are the chief attractions at Magnolia Hall, the admirer of fine evergreens will here find abundant objects to attract attention. Beautiful specimens of *Cedrus Deodara* and *Cryptomeria* fifteen to twenty feet high, drooping, graceful plants, in high health. *Cupressus funebris*, an elegant specimen, eight or ten feet high, being planted but five years, is beginning to show its beautiful weeping habit. *C. Corneyana* promises to be a beautiful thing, having, so far, a weeping habit.

There are fifteen other species of Cypress, they are, however, too small as yet to make a show, or even to indicate what they will be. There are about a dozen species of Juniper out for trial, and doing very well so far; the same may be said of as many Pines. *Taxodium sempervirens* will soon be a tree, it seems to be quite at home; and the finest plant I have seen of *Taxus japonica* is here. There is also *T. Canadensis*, four or five feet high, and looking as handsome as if amongst its native snows, these with four others complete the list of Yews. Amongst the rare *Thuyas* are *gigantea*, *picala*, *Warreana*, *Egyptica*, *asplenifolia*, *aurea* and others. The two *Libocedrus decurrens* and *Chiloensis*, *Cephalotaxus Fortunei*, five species of *Abies*, *Cunninghamia sinensis* and *Araucaria Brasiliensis*, and many more with "hard" names, but doing well notwithstanding. The Japan Plum, *Eriobotrya* (*Mespilus*) *japonica*, *Podocarpus* and *Raphiolepis*, *Illicium anisatum*, *I. floridanum* and *religiosum*. I noted the Norway Spruce, a rare tree with us in the low country. Some of the specimens are ten feet high, in perfect health and growing freely, still the plants have that sparse meagre look which they have at the North, when in extremely unsuitable soil; they live and grow, but evidently are not at home here. The Hemlock Spruce looks pretty well in a partially shaded position. Mr. Drayton pointed out a new variety or, as some say, a new undescribed species of the Hemlock. The foliage is not arranged in straight lines on each side of the twigs, like the common one, but in whorls partly, in some places spirally and in others in pairs. It is certainly distinct. The plants are about six feet high. They are the common Hemlock in every respect except in the position of the

foliage. It is possible, however, that the full grown trees may show other differences. The plants are from the mountains of North Carolina.

From the first of May until the first of November the dread of malarious fever drives the planters to the city, to the high, dry, healthy pine barrens, or healthy neighboring villages. This fact has, in some measure, influenced Mr. Drayton's selection of flowering shrubs and plants. His object is to collect together such plants as bloom only when they can be seen and enjoyed, in winter and early spring. No gardener is employed, nor does there seem much need of one. The keeping of the place is perfect, not a weed, hardly a dead leaf to be seen. I do not see how things could be much better managed. Even your critical eye, Mr. Editor, would see few incongruities. No doubt if the whole had to be done over again, and done in one or two seasons, great improvements might be made in the arrangement of the plants and other thing. It must be remembered, however, that we have not your fine green turf for a ground work. We cannot have those open grass spaces in our gardens which are such a relief and a repose to the eye. I am in hopes the *Spergula* may succeed with us; it is doing well so far in two or three places; should it succeed it will be an acquisition indeed to us. All our open spaces must be filled up with trees or plants of some kind, hence our gardens must, to a stranger from the north, look like wildernesses of trees and shrubs. There are difficulties and disadvantages to contend with here that are never felt in more healthy climates. But the day will come when the immense "material" that can be brought together, to assist in landscape gardening or in garden adornment, will be put to its proper use. When it is remembered that almost all the plants and trees of the world, that are not intertropical, can be grown here, it will be seen we have plenty of material to work upon. Our own noble Oaks, Magnolias, Palmettos, &c., are a host in themselves; but they are nothing to assist in landscape produced by other countries, which could be brought together. Some wise man has said that no one has such magnificent visions as the poor man. I often feel its truth while thinking of what *might* be done here in the way of landscape gardening.

Mr. Drayton is a Pear culturist, too. He has some seventy or eighty varieties on his list. He has experienced no difficulty with dwarf Pears, they bear regularly and finely. The soil of the place is a sandy loam on a stiff marly subsoil.

After all, I fear I have given your readers but a poor idea of the place. What I have written is rather a dissertation on gardening than a description of what I saw. I have, in fact, but a very confused idea of the place myself, for I paid little attention to its

form or general appearance, I was so much attracted by the different beautiful plants in all directions, and wheeled and turned hither and thither so much, that I have no idea of the ground I walked over.

I have headed this sketch No. 1; should I continue to send you further numbers I will be more brief and merciful of your space, and try to be a little more clear in my descriptions.

LAWNS.

BY K.

I read with much pleasure your admirable remarks on lawns, but there is one point you have omitted to notice which I think has a great tendency to improve a lawn,—I mean the new idea of mowing often, and leaving the mowings to lie on where it falls. By this nothing is taken away to impoverish the soil, and the double labor avoided of having to take up and carry away the mowings. I have not seen it practised myself, but am credibly informed by those who have, that it answers admirably, and that the littery appearance one would suppose such a lawn to present, is in reality but imaginary. It seems to me so reasonable that I could not avoid suggesting it to you as an additional hint for your interesting editorial.

[We are much obliged to K. for the hint. We saw it practised at Wodenethe when we were there last Summer, and so can "speak by the card" as to its good results. It should be stated however that the lawn is there mowed by a machine, and we doubt whether any but a very expert hand mower could do much with a common scythe, going over the lawn every week or ten days. In fact there is this difference,—the scythe works easiest with the grass long, when it will not do to neglect the mowings, while the machine will work *only* in lawns kept closely shaved.—ED.]

RUSHES OR STRAW, FOR THATCHING.

BY J. W. J.

You had two or three communications on thatching in last year's *Monthly*, but none of the writers mention rushes as being used. They are, however, neater and make a much more compact and durable thatch than straw of any kind. They should be cut in the fall, bundled, dried and used in all respects like straw. After some years, when the ends of the rushes begin to decay, the thatch should be beaten, and all broken fragments swept off with a stiff broom; otherwise a vegetable mould is formed, and grass or weeds of some kind take possession and soon cause the thatch to rot through. Thatched buildings do not last long except where fully exposed to the sun and air.

PEARS IN THE SOUTH-WEST.

BY THOS. AFFLECK, WASHINGTON, ADAMS CO., MISS.
April 6th, 1869.

The numbers preceding each of the following notes are those of my private catalogue. It is quite possible, though by no means probable, that an error or two may have crept in, as to sorts. The bulk of the varieties were received direct from RIVERS. I have yet quite a number of the original imported trees—some on quince, some on pear—but, though treated with tenfold the care of any of those propagated from them, and growing in good soil, they have made no growth worth noting. I do not remember one of them that now exceeds 6 or 7 feet in height; and all have a shrivelled, sickly, dried-up appearance. I am not aware that any one of them ever bore more than a few indifferent specimens. There is one instance worthy of mention, that of a *Passan's du Portugal* on pear; the original tree is such an one as I describe, whilst my specimen tree, the result of a bud from that original, inserted in a fine native seedling, is now a tree of some 18 or 20 feet, a most noble pyramid, branched to the ground, and which has borne several heavy crops of this, not No. 1, yet very marketable fruit. Coming very early into bearing, and being so very productive and vigorous, it is a desirable sort.

But to the promised notes. Much repetition of description is inevitable; and that you and your readers must put up with.

No. 1. *Adele de St. Denis*. A handsome pyramid, about ten feet high, $4\frac{1}{2}$ inches through at ten inches above ground; bears freely; now full of blossom, but foliage yet scanty. Here I may remark that there is a vast difference in these several varieties in these respects, and in the persistence of foliage in the fall. Many sorts are now in full leaf, with fruit set as large as a damson plum; whilst others have not yet opened a bud. And I have noted, I think, that those which leaf out earliest, also retain their leaves to the latest. This tree of *Adele* has been remarkably healthy until last Summer, when a scabbed appearance of the bark, with dead twigs and spurs, denoted disease. Close pruning may save it.

No. 2. *Alexandrine Helie, V. M.* A straggling, thinly branched tree, of rather slow growth, but healthy; about 8 feet high, 3 inches in diameter. Bore a fair crop last year. As yet foliage scant, blossoms do.

No. 5. *Arbre Courbé*. Handsome, healthy tree; and by judicious use of the knife, a free pyramid. Its habit is not nearly so *Courbé* as when on pear—*twisting, sprawling*, would suit fully as well as *crooked*, by way of translation. Tolerably productive. Not a leaf yet, some blossoms, buds swelling.

No. 6. *Archduke Charles*. Almost as upright in growth as the Lombardy Poplar; a healthy, beautiful

tree, about 10 feet high, and fully five inches through. Has been quite productive, and is now covered with blossoms, foliage scant.

No. 7. *Augustine Lelieur*. A handsome tree, and hitherto healthy and thrifty. But now shows some signs of a diseased condition, in the *leprous* state of the bark of the trunk. No dead twigs, however, and is now in full leaf, with a heavy crop of fruit fully set. Bore and ripened a large crop last year; too large, I suspect. Ten feet high and five inches in diameter.

No. 8. *Baronne de Mello*. Had been, until last year, a thrifty, vigorous, handsome tree, but is decidedly diseased and cannot last long. Bore a heavy crop last year, and shows some few blossoms now; foliage scanty. One dislikes to see a tree like this die: now some 12 feet high, 5 inches in diameter and handsomely branched. But, in experimental grounds, this is at times unavoidable.

No. 9. *Beau present d'Artois*. A "handsome gift" it is indeed. No more beautiful object on my ground than this tree; some 10 or 11 feet high, and 5 inches through, perfectly pyramidal and somewhat compact in habit, now in full leaf and with a heavy crop of fruit fully set. It has been quite productive, last year especially, of its enormously large and fine fruit, ripening through October, and keeping through November, in a cool, dry cellar, if suspended by the stem.

No. 10. *Belle Apres Noel*. The description of No. 9 suits for this to a T, and need not be repeated.

No. 12. *Bellissime d'Hiver*. A healthy, thrifty, tree, but quite a slow grower. Only some 8 feet high and 4 inches through. An abundant bearer, now full of foliage and with a heavy crop of fruit set.

No. 13. *Benoist*. Of a singular upright, fastigate habit; not very thrifty, yet bears well. 8 feet high, 4 inches in diameter; now full of leaf and with some fruit set.

No. 14. *Autumn Bergamot*. In many respects ditto to the last. Not productive. In fact, do not remember of ever seeing a fruit. Foliage yet scanty and only one bunch of blossom.

No. 141. *Winter Nelis*. This is a tree some 9 or 10 feet high, and 5 inches through, which was removed some fifteen months ago, to fill up a vacancy, yet bore some fine fruit last year, and has now a tremendously heavy crop set. It is one of several fine pyramids I have of this sort, both on pear and quince, and on both it is always productive at an early age, and fruit large and exquisite. There is no Pear I value more highly, and especially as a dwarf. For though of slow and straggling growth, it is hardy and productive, and fruit not to be surpassed. It ripens here through October, and even November.

No. 18. *March Bergamot*. I doubt the correctness of this tree, though the original came to me so label-

led. It is one of the finest and most productive of large and excellent fruit on my grounds. As yet I have not identified it. The habit of the tree is that of *d'Angoulême*; fruit not so large, and finer in all respects. It has now a heavy crop set.

That is one of the greatest troubles we have here; the difficulty of identifying, having so few to compare notes with; and difference of time of ripening as compared with your seasons and those of Europe; as also that the fruit has, almost always, a higher color and richer flavor.

No. 19. *Bergamotte Lesible*.

No. 20. *B. de Parthenay*.

No. 21. *Burgermeister*.

These three are total failures on quince.

No. 24. *Beurré d'Amanlis*.

No. 25. *B. d'Anjou*.

No. 26. *B. d'Arenberg*.

These are all successful on quince, *d'Amanlis* especially, though I do not rank the fruit as high as some do here.

No. 27. *Beurre Bosc*. Although a tree of 12 feet in height, and 5 inches diameter, is not healthy looking; do not remember of its ever having perfected a fruit. Open, straggling growth.

No. 28. *Brown Beurree*. Ditto, ditto; but not of so strong a growth; 8 feet high, 3 inches through. Foliage scanty as yet; white with blossom, and much fruit set.

No. 32. *Beurré de Capaumont*. Fine thrifty trees of this sort; now full of foliage and much fruit set.

No. 35. *Beurré Diel*. Is here an excellent sort on quince. Tree quite a favorite with the late Doctor Jenkins. Grows thriftily and bears well; fruit large and fine.

No. 37. *Easter Beurree*. Am inclined to think this will prove one of our best varieties grown as a dwarf. From some oversight, had not tried it until lately. Grows well, making a handsome and healthy tree.

No. 38. *Beurre Giffard*. Of queer straggling growth; 12 feet high and 5 inches through. Foliage yet scanty; blossoms abundant. Bears heavy crops annually.

No. 39. *Beurré Goubalt*. Also an open growth and straggling but noble tree; some 10 feet high and stem 5 inches thick; an abundant bearer; an enormous crop now set; foliage yet scant.

No. 41. *Beurre Langelier*. A thrifty, compact handsome tree, 9 feet high and 5 inches in diameter; full of foliage, but scanty crop of fruit set.

[So little is yet known in the South of the newer kinds of Pears or of Pear growing, that Mr. Affleck's notes will make a valuable contribution to Southern pomology. We shall continue them in our next.—Ed.]

NEW MODE OF PROPAGATING.

BY JOHN WATSON, ROCHESTER, N. Y.

"**STRIKING CUTTINGS.**—Some seven or eight years ago, I sent you some little plants grown in nutshells, of which you gave a wood cut representation in your columns. I now beg to inform you that I have discovered a means by which I am enabled to strike and grow an almost incalculable number of plants in a very small space, without an atom of soil of any kind. I herewith send you a few bedding plants as an illustration. Not only may plants of this description be struck and grown, but Roses of all kinds, from the hard-wooded crested Moss to the most delicate China; and not only may they be grown as isolated plants, but by dozens in bundles, so that Roses may now be propagated annually and bedded-out like Scarlet Geraniums, Lantanas, &c. I also enclose a bundle of Roses, which you perceive are making roots, and will be ready to send out with the usual stock of plants. But my system is not confined to this tribe, for I am prepared to show that Apples, Pears, Plums, indeed any deciduous plants whatever, can be propagated by cuttings in the same manner, namely, without soil. Nor has age of cuttings any thing hardly to do with the process, for all kinds will strike and grow, almost at any age, at least from one to ten years' old wood.

I am not aware that this mode of propagation has ever been made known by any other person, so that, if you think it worthy of notice, you will do me a favor if you will give it publication. I also further beg to state, that my striking apparatus is simple, portable and my own invention; and I need not explain to you that it is on strictly scientific principles, founded on the organic structure of plants. After the cuttings are probably struck, a little moss is tied round them; they will keep for a month in that state.—W. PRES-
TOE, *Hackwood Park.*"

The above, from the *Gardener's Chronicle* of the 12th of May, will probably attract the attention of the gardening world more than any thing connected with horticultural progress that has transpired for many a day. It is, in fact, the beginning of the end of all the ordinary and time-honored modes of propagation, and will doubtless prove as great a bug-bear to the Cunninghams of our large establishments, as was the introduction of the sewing and other labor-saving machines to the parties who were likely to be affected by their use. Nor is this a mere "hyperbolic exaggeration," founded simply on the testimony of others. The writer of this has long ago satisfied himself, and hopes very soon to be able to convince the public at large, that a complete revolution in the art of plant-propagating will speedily occur. Neither the excessive care and vigilance, nor the great amount of skill which is at present essential to success shall then be required; simplicity will be the order of the day, and plants that are now propagated in a mysterious and specific manner, will be made to succumb to the one simple and general rule.

It may, perhaps, interest the readers of the *Monthly* to know that during the past few months I have been experimenting in this department of the trade with a view to discover that simple and natural mode of propagation, which my ideas led me to suppose must necessarily lay beyond all our little tiny tricks and mystifying notions, and which I fondly hoped would be applicable to vegetation generally. In this I was

not disappointed;—indeed my success has been most complete. I can now take hold of my cuttings—no matter of what description; green-wood or grey wood, old or young, deciduous or evergreen, leaves on or leaves off, in bundles or any other way you choose to arrange them—and propagate them with a degree of certainty seldom or never before attained. Besides, all this can be done without a tithe of the labor and expense usually expended in such cases; my apparatus is portable or not, just as you please; it is simple and would be laughed at so I shall not expose it; it can be filled to repletion, and it may be extended, purse permitting, *ad infinitum*. I shall not enter more into detail, but may simply remark that my success rests entirely on two very simple matters, the first of which is to *find out the very best medium for the development of the callus*; and the second point is *never to plant a cutting until the callus is fully formed*; then you may "tie on a bit of moss," or, what is much better, plant out in sand or sandy soil, with bottom heat. I may further observe that by this mode we get rid of a great and growing evil, the "fungus of the cutting bench." It is equally obvious, that by keeping up a supply of calloused cuttings, ready to pop in as soon as the others are rooted, "an almost incalculable number" of plants may be struck, and grown in a "very small space." It will do away, in a great measure with some kinds of grafting and budding; and I feel confident that I can "put Pear buds on quince cuttings, either in Summer or in Winter," and "put life and mettle i' their heels," with much more certainty than your correspondent ever dreamed of. I will not trespass any more on your valuable space. My best wishes for the success of the *Monthly*.

[In a private note, our correspondent refers us to responsible parties in "case we doubt his veracity." This we do not require, as no one who has read the *Monthly* in the past could fail to come to the conclusion that the success our correspondent details is not only possible, but has in a great measure become a "thing accomplished."

In one of our first numbers, the secret came out that there was no more difficulty in striking eyes of Native than of Foreign Grapes, *provided*, after they were cut ready for planting, they were suffered to lie mixed with damp moss for two weeks in a place secure from drying. Here they form a slight callousity, and when planted *all* grow. This hint we have reason to know has been extensively acted on, and thousands of dollars have been made through the information thus given. The hint, also, given by other of our correspondents, about leaving cuttings of such things as Cotoneasters, Prunuses, &c., in dark cellars in dry moss, when they would push roots freely,—the accounts of striking in Sphagnum moss, and

many other details of practice and observation, have all pointed conclusively to one great principle, namely, that a "*callus can be formed in any cutting before being put into the soil*," and where that is effected, it can readily be made to root.

It is, in fact, now become well-known to some—we may say many—of our most skilled propagators, that all cuttings can be made to callous, and then be made to grow. Apples, Peaches, Cherries and Plums, are now freely struck by several in our immediate vicinity from cuttings, and many kinds of trees once thought impossible to propagate in that way, are now raised so very freely.

In our own experiments, we have found a common preserving bottle excellent for callousing hard cuttings. A sponge is pushed tightly into the bottom of the bottle, and water poured on. Then all the water is drained out that will go out by inverting the bottle, and the cuttings placed loosely in. No cork is placed in the bottle, and evaporation takes place slowly and the cutting soon forms the desired callus.

The whole secret, in fact, is in allowing free access of air to all parts of the cutting, at the same time taking care that *evaporation shall not be so excessive as to dry up the cutting*.

We have no doubt that all sorts of useful apparatus will be originated for rendering the process simple and easy; and the best thanks of our readers are due to Mr. Watson, for bringing it thus prominently forward. As he says, it will work the greatest revolution ever experienced in gardening.—ED.]

ORCHID CULTURE.

BY AN OLD GARDENER.

Mr. Editor: I enclose you a drawing of a basket used for Epiphytal orchid growing. This is constructed of white oak, rods of one inch to one inch and a half in diameter, cut in lengths of ten inches. Eighteen of these sticks are bored one inch and a half from the end, the hole being large enough to admit the passage of a strong copper wire, which is made fast at the bottom. At the top of the basket a ring is turned to admit the chain. The bottom is made of two lengths of the same rods, make in the form of a cross, and nailed with copper nails to the bottom rods of the basket. The openings between the rods are stuffed with Sphagnum, rather lightly dressed on the outside with a pair of shears. This basket has six sides, suspended by three lengths of chain, and is, I think, more suitable than green painted baskets made on the square by a carpenter, at least for all such having pendant flower stems, such as Stanhopeas, Gongoras, Acroperas, &c.

I have baskets forming eight sides, made on the same principle, which are neat, requiring four chains.

Brass wire will not stand the continued moisture of the Orchid house, as recommended by some. I use the following compost in baskets, or if grown in pots, the same for the species that grow upon trees. Leaves not completely reduced, but what have been heated and are still adhering together in lumps, half rotten wood, Sphagnum in equal portions, and add to this a little white sand. In the bottom of the basket



I add the understratum of charcoal broken small, and when planting keep the plant well up in the centre of the basket, finishing off with clean Sphagnum. In this light, open compost they will thrive and root freely. When planting in pots, I invert a small pot within, filling around with broken charcoal, and

using the above compost.

There is nothing new in all this, but how seldom do you see it practised in this country. I know the most successful practical growers in Europe adopt the same treatment, and consider it better than the Lyon's system of using lumps of peat.

There is no class of plants grown, that have made such rapid improvement in cultivation, within this last few years, as the genus *Orchid*.

I may, at some future time trouble you with remarks on the cultivation of terrestrial species, if acceptable.

[We shall at all times be pleased to have the result of our correspondent's extensive experience on this or any subject.—Ed.]

CONSERVATORY AT THE PRESIDENT'S HOUSE.

BY J. WATT.

At page 174 of *Gardener's Monthly*, a correspondent, K. R. D., says of the conservatory under my charge, "I do not know even the name of the gardener, but candour compels me to say that the condition of these houses was either a disgrace to him or to the nation, in not providing him with sufficient help to keep them in order, &c." If the writer had such a desire of being candid, he should have been equally anxious to be just, and should have thoroughly examined the place under my charge—other houses as well as the one noticed—before hurrying into print. Had he passed into the Kitchen-Garden close to this large house, he would have found some low structures, better adapted to the culture of plants and fruit. Among other things grown in the latter, at that time, were Grapes in pots, at the time ripe, and which, without egotism, I may say were the best ever seen in Washington,—these your candid correspondent may contrast, if he chooses with those seen at any other establishment here. In another house, at the East of the President's mansion, may be found a collection of Geraniums, Fuchsias, and similar things,—your correspondent may on these pass his opinion. This house was specially constructed for plant and fruit growing, hence the results. But to return to the "noble double pitch house." Your correspondent has not informed you of its elevated position, its not being properly provided with shading, and above all, and before all the impossibility of keeping a properly humid atmosphere. The house connects with the mansion, and on reception days is used as a promenade; on such days we are strictly forbidden from using water about the house until quite late. Gardeners can, therefore, judge how plants must suffer in a house like this during a hot day in May or June. These plants I am not at liberty to move from the house when I may

deem necessary, as they are wanted for decoration. The choicest specimens are taken into the heated air of the reception rooms, several days in each week, and however beautiful when they enter, I need not inform plant growers the figure they cut when brought out; of course many of them irreparably ruined. To expect plants in a promenade house like this to be in every particular equal to those grown in a house where every thing is brought to bear for the well-being of the plants, is sheer nonsense. That the house may have been in dishabille at the time of your correspondent's visit, is more than probable, but that either "dirt, decayed leaves or disorder," met him at every turn, is certainly not true. Neither have we any of the "under potted half starved plants" that he speaks about. If he wished to look at plants properly grown, he should have looked into the other houses.

[We cheerfully insert Mr. Watt's communication, which furnishes some reasons for the want of health in his plants. Where a conservatory adjoins a dwelling, it appears to us that it would be better to allow the plants to remain in it, than to have them introduced into the dry and over-heated apartments.]

We never admit criticisms of this kind on private establishments, but we consider the President's House and grounds as public property, and therefore legitimate subject for criticism.—Ed.]

SHALLOW VINERY TANKS.

BY NOVICE.

In a flattering note to my article on "PRUNING FRUIT TREES," in your June number, you inquire the results of the operation of my Vinery tank, which has already been well described by Mr. Bright, in a late number of the *Horticulturist*.

The objects sought to be attained by its introduction were three:—

FIRST, a supply of water, for irrigation, warmed to nearly the temperature of the house by solar heat.—

SECOND, an equable and abundant moisture, by the exposure of a broad surface and shallow body of water to the sun's rays.

THIRD, to form, by means of slats nailed across the top, an open platform, on which to place my fruiting pot vines, during their early growth and period of blooming, when a high degree of humidity is requisite.—

The tank has fulfilled all my expectations; the water, during warm, sunny days, frequently attains a temperature of 95°, diminishing, during cool nights to about 80°, and thus supplies the means of warm irrigation without trouble or expense. I am often enabled to syringe the vines, in the morning, with water 10° to 15° warmer than the air of the house.

The grateful influence of such an application you may well imagine.

The atmosphere of the house is maintained, in all ordinary weather, at a genial humidity by the surface evaporation of the tank alone, and although, on account of my very warm exposure, the mercury often rises to 120° or 125°, requiring frequent sprinkling of the floor to maintain the high dew point required by my young vines, growing this year from the eye, yet I am sure that, in an old house, where the early foliage partly shades it, no other appliance than the tank will ever be requisite.

The Vinery is a cold one, (constructed, throughout, upon Mr. Bright's plan, of "Inside, Detached and Divided Borders,") 45 feet long; the tank is of the same length, made of two inch pine plank, put together with grooved joints and white lead, and painted white,—2 feet in width, and in depth 7 inches at the centre, and 6 inches at either end, so as to allow of cleaning the tank whenever needful, and drawing off the water, through an orifice in the bottom, and a pipe leading to a waste well outside.

Water is pumped in, from a rain water cistern underground, in the morning; during the day all sediment deposits, and at evening we have a full supply of warm, limpid water, for watering the pots and borders, and syringing the vines, which I do, not by forcing the stream directly against the leaves, but by throwing it up into the body of the house, whence it falls upon the plants in a fine mist, like a gentle summer shower.

Should any of your correspondents or readers adopt this feature in their vineries or plant houses, I hope they will report their experience. I would suggest the following improvements; let the centre of the tank, for a length of two feet, be about 18 inches deep, so as to allow of dipping out with the watering-pot, and at the end opposite the door let a similar depression be made, of sufficient length and depth for a liquid manure tank, to be covered with a lid, and partitioned from the main tank, so that water, either warm or cold, could be let into it or drawn off at pleasure.

In a greenhouse or plant-house, where fire can be applied, a very desirable and useful addition could be made by attaching the heating apparatus which you, Mr. Editor, have so successfully employed, (and of which I trust you will furnish your readers with a detailed description), which would require the tank to be about 2½ feet wide, one half the width to be covered, to form a propagating bench, the other half left open. This arrangement would combine, at a very moderate cost, a Warming, Evaporating, Propagating and Fertilizing Tank, of general utility, and in the most compact possible form.

INSECT TRAP.—Dr. Joseph Heard of Mississippi, has invented a simple trap, consisting of a tin plate to hold molasses, and a cone shaped centre piece, with flat cap. The flat sided cone stands in the centre of the dish of molasses or sweet stuff, and is rubbed on the sides with a paste of phosphorescent stuff, that shines in the dark, and thus attracts the insects within the influence of the bait in which they are to be drowned. It is calculated that two of these to an acre will be a great help to destroy the insects that lay the eggs which produce the caterpillars that are so destructive. The theory is, destroy the egg producers and there will be fewer grubs and caterpillars. —Michigan Farmer.

ARTIFICIAL BREEDING OF FISH.—In these days of aquariums, we wonder that more attention is not paid to this interesting occupation. It is easy for ladies to get the water-plants, but not so easy to get at the fish. The few who have tried hatching the spawn have been very successful. We paid a visit recently to the fine country seat of R. P. Desilver, Esq., who, recently returning from China, has purchased the fine estate on the Delaware river, at Tacony, recently owned by Mr. W. E. Bowen. The fish pond has recently been stocked with 1500 brook trout, all raised the past winter, artificially, by a gentleman at Yonkers, N. Y.

SAW DUST MULCHING.—An Iowa correspondent of *Rural New Yorker*, has found saw dust a good mulch for the strawberry.

DIRCA PALUSTRIS.—The *Homestead* recommends as a good plant for low ornamental hedges, which we think a very good idea. It is known as the "Leatherwood" in some localities.

A NEW THERMOMETER—Has been invented by M. Victor Beaumont, which is said to be far superior to the mercurial thermometer. It consists of a strip of steel and one of brass soldered together, and bent in the form of a segment of a circle. Brass is affected twice as much as steel by the temperature, and hence, by graduating the movements at the end of the compound strip, the variations of temperature are recorded.

THE DIANA GRAPE.—Has been sixteen years working its way to the eminent position it now enjoys.

A NEW POTATO.—The Algiers got the gold medal in the Paris Exhibition of 1856, and the Ten Dollar Premium in the Berlin Exhibition of 1858. Ripe in six weeks from planting, weighing from 8 to 12 ounces each, as large as a "big fist," and so mealy that they fall to pieces when boiled. Ready to be dug by end of June (in Germany,) and yields sixty fold.

The Gardener's Monthly.

PHILADELPHIA, JULY 1, 1860.

✉ All Communications for the Editor should be addressed, "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

NOTICE TO CORRESPONDENTS.

In consequence of the heavy increase in the circulation of the *Monthly*, and the consequent necessity of going to press earlier in order to issue the Magazine punctually to all our subscribers by the 1st of each month, it is desirable that communications requiring immediate attention, should reach the Editor before the 10th of each month.

SUBURBAN GARDENING.

That thousands of dollars are annually wasted in "fixing up" the grounds around rural residences, no one who has so freely shed the auriferous stream under the operation need be told. The thousands who annually bleed in the cause, can testify to their dearly bought enjoyments. No one with a mind for the beautiful, and a heart that sympathizes with the yearnings of his fellow men in their efforts to secure rural enjoyments, can look upon the showy and expensive follies called gardening in the suburbs of our large cities, without pain for the proprietor, and disgust at the result.

The real Landscape Gardener becomes annoyed at the associations in which he finds himself placed. He blushes at the thought of being considered a "Landscape Gardener," when such productions are called Landscape Gardening; and he looks about him for some more distinctive name. Hence we have "Garden Architects," and "Rural Designers," "Horticultural Engineers," and numerous other *sobriquets*, all preferred to the genuine term of Landscape Gardener.

We have said that the proprietor of such an establishment is to be pitied. After a lifetime of sacrifice to the ledger, in the hope of receiving that reward in his old age which the golden goddess so capriciously bestows, he finds the fruits like Dead Sea Apples, turn to ashes on his lips, ere he has barely had a taste of their sweetness. The thousand dollar note he took for the principal sum in his prospective account, proves but the interest of the account current,—and as to the place when finished, could he not derive more pleasure for nothing by a run to the nearest wilderness?

While pitying the owner of such costly nothingness, we must not blame the innocent instruments—the "Landscapers." They owe their existence to the ignorance of those who employ them. They obey the

common law of demand and supply. There is a market for their services, and they offer the wares.

If the rich man, about to "settle" in the country, is anxious to get the worth of his money,—both in the work done, and in the beauty of the results, he must first educate his own taste. He will soon learn to distinguish between a genuine Landscape Gardener and an empirical professor of the art; and he would as soon think of being "his own poet," or his own "Portrait painter," as his own layer out of his garden and grounds.

The real master of his profession will prevent him from spoiling beauties that already exists—beauties that only require to be touched up, added to, or subtracted from, in order to render them perfect to the senses. And not only will he teach him how to make the most of materials already in hand, he will also prevent him from attempting objects that cannot be accomplished. He not only possesses the faculty of being able to plan out his ideas so that his employer can see the results before he commences; but he is also a practical gardener, and knows where every thing can be best placed for the best advantage. In short, not a tithe of the many ways in which he can save money and add beauty, can be told in short chapter like this.

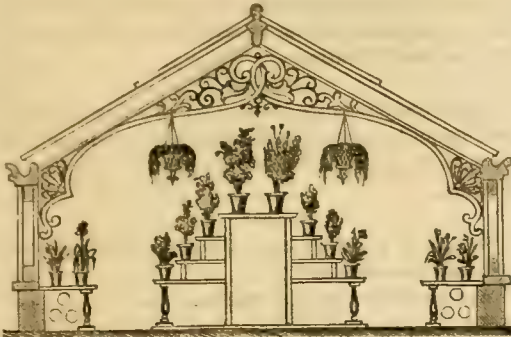
The great difficulty always has been that good practical gardener's are not often possessed of the requisite knowledge in the higher branches such as surveying, drawing, mathematical calculations, hydrostatics, and the many kindred arts and sciences,—while on the other hand those who have had a good education in this respect, and may add to it a rare eye for the beautiful, are amongst the most impracticable of all the practitioners of the art.

Real Landscape Gardeners are not numerous; but they are now to be found in most of our principal cities; and they will increase as the popular taste becomes educated to their merits, both as savers of temper and cash, and artists who can produce the most durable and enjoyable of all pleasures to a cultivated mind, a garden of real beauty and taste.

The easiness with which ignorance and pretension find patronage and encouragement with those of our wealthy men, who with a love for natural beauty, have not had the opportunity of cultivating a close acquaintance with its details, checks the ambition of many a young gardener, in striving to distinguish himself as an ornament in his profession. But the number capable of appreciating sound talents is greater than is generally believed, and is constantly and now rapidly increasing,—and the young gardener of the present day could not enter a field of study in which wealth and fame more certainly awaits him, than that of the several branches that go to make up a complete Landscape Gardener.

HANDSOME GREENHOUSES.

The annexed cut is taken from the Catalogue of Messrs. Weeks & Co., the celebrated English Hot-house builders.



We introduce it here to give some of our readers an idea how pretty these often very common-place looking affairs may be made to look by the exercise of a little ingenuity and taste.

PRUNING TREES AT TRANSPLANTING.

An animated discussion is going on in the French and German periodicals, as to the propriety of this practice. Very few of the disputants appeal to facts, but to the "principles of vegetable Physiology," which is being drawn in by the ears by them, in much about the same way that poor "nature" is with us.

"To prune a tree at transplanting," says one of the leading German spirits, "is opposed to the recognized theory of the sap's descent, without which there can be no extension of root growth; and therefore the more branches left on a tree at its removal, the more roots will be the result."

It is said of some French philosopher, that, when told that facts opposed his theory, he replied, "so much the worse for the facts."

In this instance we can truly say, that if the practice is opposed to the theory, so much the worse for the theory; for experience on this continent has now established the rule that all trees should be more or less pruned at transplanting.

It is singular how men will argue for years, and dispute for ages on topics, which they could test and decide in a very short time. A few months ago a dispute arose in one of our popular Horticultural Societies about the merits of some asparagus exhibited. One bunch contained stalks of an immense size, and beautifully blanched, so much so that there was but the bare effort of a steely blueness at the narrow end. This had the premium. The opposing bunch was equally as fine, but not so admirable a white the full length of each stalk. A stormy dispute arose. Each party had its advocates. At length a wag, considering that the discussion was in effect an inquiry as to

which was the proper end to eat asparagus, the green or the white, moved that a committee be appointed to carry home, cook, and test the question; and report at the next meeting—which was wisely carried, and at once the subject dropped.

We hope our learned controversialists will adopt the Solomonian wisdom displayed by this distinguished body of savans, and when such questions as the proper end of the asparagus to eat; which particular end of an egg should be broken, in order to get the most easily at its contents; whether to prune a tree or not at transplanting,—or any other that may threaten to rend asunder the harmony of our relations, occurs,—why let a committee be appointed to carry home the subject, and test it by experience.

LONDON HORTICULTURAL SOCIETY.

We are indebted to the publishers of the *Gardener's Chronicle* for a colored lithograph of the proposed new Geometric Gardens, in the new undertaking.

The gardens are now in active progress, and promise to be the finest work of the kind ever undertaken. The council have already advertised for collectors to explore those parts of the globe as yet little known for novelties. South America being yet comparatively unexplored.

EASY MODE OF MAKING CURRANT JELLY.

As the season has arrived for the ripening of currants, our lady readers will be pleased to know of a certain and easy mode of making jelly without the vexation of having, after all their trouble, only a soft and molasses-looking syrup, instead of a firm and elastic jelly. It has been fully tested, by several lady friends, in whose judgment we have full confidence, and it can, therefore, be relied on:—

Squeeze the juice out of the currants; strain and measure it. Put it in a copper or brass kettle, and boil it until the scum ceases to rise; then, without taking the juice off the fire, stir in one pound of well refined sugar to every pint of juice; and as soon as the sugar is fully dissolved—which will be in less than a minute—take it off and pour it into the vessels prepared to receive it. This jelly retains the beautiful crimson color of the currant, much better than the old mode.

INTERESTING RELICS.—The Old Hall of the Massachusetts Horticultural Society was recently demolished, and the documents, magazines, and other matters, deposited in the corner stone, by President Wilder, in 1844, were found uninjured by the tooth of time. Did we live in an age of signs, this would be considered a happy augury of the permanence of the institution.

Questions and Answers.

STRAWBERRY SEEDLINGS.—From Mr. Churchman, Burlington, New Jersey:—One a long ovate, medium sized berry, very firm in texture; said to be a very good preserving Strawberry, that can be put up whole without any liability to break. Another is a very large berry, four inches and a half in circumference, conical, and having large leafy calices, which gives them a very distinct appearance.

They are not, we think, better than others that we have seen and tasted, but they are very good, and well worthy of further trial.

From Mr. Saul, Washington, D. C.:—A box of Foreign kinds—River's Eliza, Trollope's Victoria, Vicomtesse Hericant de Theury, and Count of Flanders—all very fine, and fully equal to kinds of American origin.

GRAPES FOR CALIFORNIA—I.—Will you give us through your valuable "*Monthly*," your views on the utility of the Cow Pea vine, as a *mulch* for the small fruits? (1)

Can you inform me what kinds of fruits (besides the Grape,) succeeds well in Southern California, (Los Angeles Co.) (2), and are the fruit crops ever cut off by frost there?

Is the Angers Quince worth raising for its fruit? (3)

[1. Our views on mulching are given by the writer of the "hints," this month. The Pea Vines will make a good mulch.

2. The European grapes do well in Southern California. A variety called the "Los Angeles," or "Mission" grape, is in extensive cultivation there, it was first introduced by the old Jesuit Missionaries from Europe. We know little of other fruits there tried.

3. Yes, but the Apple and Pear varieties are the best.]

CORRECTIONS.—In V. V.'s article on Grape culture, in our May number, "sulphur sown broadcast through the border," should read through the house.

40 pounds of grapes should read 400.

In ventilation "are allowed to raise to the end of the border," should read to the level of the border.

There are a few other minor errors, which the good sense of the reader will detect.

GRAPE VINE BEETLE—R. C. Arsenal, Pa.—The beetle of a steel blue color, and about the eighth of an inch long, which you send, and describe as eating out the buds of your grape vine before they push, is the *Haltica chalybea*, allied to the turnip fly. The larvæ

that succeeds,—small slugs, about one-fourth of an inch long,—are very destructive to the foliage. Hot water will effectually destroy them.

GORDON'S PINETUM—B., Lexington, Ky.—This is not a description of Pines merely; but of the whole tribe of hardy Coniferæ.

LADY OR CALAPAN PEA—J. J. F.—The pea you send is the Japan pea, or *Soja hispida*, a popular bean with the Japanese, of which the celebrated Soy soup is made.

RHUBARB FROM SEED.—Does the true Linnaus Rhubarb produce seed? (1)

Will peas Planted close together mix? (2)

What is supposed to be the best variety of English Gooseberry for our climate? (3)

Do you know of a variety of Rhubarb called the Mammoth Turkey, that reproduces itself from seed? (4)

Will the Chinese Chrysanthemums stand the winter in the open ground as far North as this? (5)

Crescent City Iowa,

H. A. T.

[1 and 4. No kind of Rhubarb will certainly reproduce the variety from seed.

2. They will not mix.

3. None of them do well. The Whitesmith is one of the best.

5. With dry leaves kept over them as a slight protection, they will.

BUFFALO BERRY—I.—This is not *Elæagnus argentea*, but *Shepherdia argentea*, two plants as nearly allied botanically as they seem in name. The first family has, however, perfect and pretty flowers, as well as showy fruit. *Shepherdia* has male and female flowers, on separate plants, and very insignificant ones at that. Both genera have silvery foliage, and handsome fruit. *Shepherdia canadensis* is also often called Buffalo berry at times. It has yellowish berries. The other species has them scarlet. Both and the *Elæagnus* grow wild, we believe, in Northern Canada.

PINUS INSIGNIS—H. Rochester, N. Y., inquires whether this "has been tried so far north as Philadelphia, and if so, whether it is likely to do well in Western New York." It lives out here, sometimes, but is usually so injured, as to be worthless. *Pinus radiata* is but a slight variety of *P. insignis*.

VARIEGATED PLANTS—L. Menand, Albany, N. Y. puts the following:—"Allow me to ask you a silly question. Is *Dracæna indivisa* a variegated plant? Against the evidences of my own eyes, the Brooklyn Horticultural Society have decided that it is so. If

you say it is, add in a note where I can procure a pair of spectacles adapted to my unfortunate condition."

[Committees often make some curious decisions; but we have to bear with them on account of the good they generally do. We recently heard of another committee that, in an offered premium for "new plants exhibited for the first time," rejected two beautifully variegated plants, "because they were not in bloom!"]

Of course *Dracena indivisa* is not a "variegated" plant. In a class of "plants with striking foliage," it would come in all right.

DELAWARE GRAPE—*Amicus*.—We are not complimented by your communication, and certainly shall not insert it. We do not "allow anonymous attacks" on any one, or on any grape or thing.

"Fruit-Grower's" article on the Delaware is not "anonymous," for we know the writer, and it is not an "attack," for it simply details the experience of a careful grower, on whom the public can rely so far as his experience goes. Singularly enough "*Amicus*" sends no name with his own very unamicable letter.

We differ from "Fruit-Grower" ourselves in some of his conclusions; but have to say once for all, that the *Monthly* shall always be open for the free expression of any one's experience, facts and observations—we do not say mere opinions and "amicable" (?) insinuations of interested motives—and it matters not to us which way such experience leads, so that it leads aright.

If "immense interests" can be so easily affected by "Fruit-Grower's" article, they must be "immensely" rotten, and the public "interest" will be in their downfall.

The Delaware Grape gives great satisfaction in this neighborhood. Vines loaded with delicious grapes, well rewarded their owners last year; but it may not be so well adapted to other localities, and this is just what we want to know.

NON-FLOWERING OF GRAPES—*A. B. C., Bedford, Pa.*—"The vines in my neighbors cold Grapery having failed to bloom this season, except one—White Syrian,—I will thank you to inform me of the cause. They were lifted during the warm weather, last February. Very severe weather followed, and they were not protected afterwards. My own were lifted about same the period, but again protected—which vines, though young, give promise of a good crop."

[The embryo's of the flower-buds are formed the season previous. When they do not flower as they ought to do, the evil lies at the door of some circumstance that occurred during growth at that time. These circumstances are so numerous, that we could not particularize any one without all the facts. The

embryos might be killed in the winter by the lack of protection you describe, but we never knew a decided instance of it in the grape vine. It often occurs with the peach, and other buds that are not so well protected by nature.—ED.]

SEEDS—*W. M. Gill*.—Much obliged by the seeds sent. They belong to the different species of Guava fruit.

NEW METHOD OF GRAFTING—*D. B.*—The method you describe, of "planting a cutting near the base of a stock, and then proceeding with it as in inarching," is not new, though your authority is the *Gardener's Chronicle*. We have seen imported plants, both French and English, on which it has been employed for years past, and it is, moreover, fully described in our last volume. We look on the *Gardener's Chronicle* as excellent authority in scientific affairs; but in practical matters it is not up to the times. Though thus differing with you, that "its insertion will be of novel interest to our readers," we are much obliged by your kind intentions in sending us the slip. As to the "impossibility of striking the Apple, Pear and Peach, from cuttings," that is sheer nonsense. There is nothing that will not strike, when the peculiar requirements of the particular subject are understood. If you think it worth while, in order to satisfy your "friend, the professor," we will send you some Peach cuttings with roots a yard long that we happen to have by us just now.

PRUNING ROSES—*G. W. R., Baldwinsville, N. Y.*—It would seem that the Rose requires close pruning and liberal manuring to enable it to make new wood, on which alone the bloom is found. Yet, strange to say, I know of a rose cultivated by a lady, without any pruning and without any manure, in winter in pot, and in summer in the border, that is a profuse bloomer, far exceeding those under my care, which, as I thought, were receiving all proper attention. This rose, I think, is a China. Now, dear sir, can you or any of the correspondents of the *Gardener's Monthly* give us practical directions, from experience only, in the pruning and other cultivation of the Tea, China, Noisette and Bourbon Roses? If so, you will have the hearty thanks of all the numerous lovers of this charming flower.

[The Hybrid China, Provence, Hybrid Perpetual, strong-growing Bourbons, and vigorous Noisettes will not flower well if closely pruned. The proper way is to thin out all weak and sickly shoots at the winter pruning, and barely take off the points of the strong ones. Tea, China, and the weaker growing Bourbons and Noisettes, flower mainly from the new growth. Strength and vigor of growth, either by ma-

nuring or pruning is, therefore an advantage to them.]

CURCULIO—*R. D., East Hamburg.*—There is no decided remedy against the Curculio. The jarring process is the best yet discovered, and when persevered in, generally preserves a good portion of the crop.

HYBRIDIZING FRUITS.—An article from the pen of Dr. Wylie, of South Carolina, whose remarkable success in hybridizing fruits have excited such general attention, will appear in our next. The Doctor corrects the statement going the "rounds of the papers," that he has succeeded in hybridizing the Peach with the Plum."

WE are greatly obliged to our kind friend, Dr. G., for his very complimentary letter. He will, however, have to live to a "ripe old age," to see "an Agricultural Department," attached to the *Monthly*. When a gardener undertakes to manage the farm also, one or other of the departments is neglected, and he finds what he was bound before to believe, that "he cannot serve two masters." Besides, with such sterling Agricultural journals, as the "*Country Gentleman*," and others in the field, such a department would be totally uncalled for, and entirely unnecessary. Our motto is, "One thing at a time, and do it well."

Books, Catalogues, &c.

THE AGRICULTURAL JOURNALS.—It is gratifying to note the increased importance given to Horticulture by our Agricultural journals. There is no surer indication of a nation's refinement and general prosperity, than the extent to which the love of horticulture exists. We look to the Agricultural press as the pioneers of gardening taste in our country,—making way for the higher aims of the purely Horticultural journal; and laying the foundation of that species of taste which it is our own peculiar object to intensify and refine.

With this view we neglect no opportunity of making their existence and merits known. Our standing list, we are pleased to learn, has been the means of posting many of our readers up to the existence of papers to which they have become subscribers; and the advertising patronage of others has been largely increased, by our readers being thus continually reminded of the advertising mediums of those special localities in which they may particularly wish to sell their goods. Anxious to increase our usefulness in this respect, we should be much obliged to our correspondents, if they will enable us to revise our list by sending us the names of such as may not now be in-

cluded, or that have ceased to exist, of which, by no copies being received at the office, we suspect there are several.

Of the more recent additions to the Agricultural press, the *Southern Field and Fireside*, of Augusta, Ga., is a valuable one. It is of the size and character of the *Rural New Yorker*, and promises to become as popular as that valuable journal. Mr. W. N. White, the distinguished horticultural author, has charge of that department.

The *Illinois Farmer* has been under the whole charge of Hon. M. L. Dunlap, for the past few months. It is thus needless to speak of the excellency of the Horticultural matter.

Of the newer projects. The *Farmer and Gardener* of this city, will start under a new form the present month, and with its Horticultural Department under the control of Mr. Saunders, who will add much to its past usefulness.

It is often a source of gratification to us that the peculiar field we have chosen for our labors, and the rules we have adopted for our course, place us beyond the reach of any rivalry, except in acts of generosity and good feeling; and that we can cordially aid in advancing the interest of our co-laborers in the cause, without doing any injustice to ourselves.

BOTH SIDES OF THE GRAPE QUESTION; Together with a Classification of Species and varieties of the Grape Vine. Philadelphia: J. B. Lippincott & Co. and A. M. Spangler, &c.

This is a small duodecimo pamphlet of 96 pages, and comprises three essays: One by Mr. W. Saunders, one by Mr. F. J. Cope, and the other by Mr. McMinn.

The first will be read with most interest, being from the pen of one already well-known to the horticultural community. The author styles it "a brief detail of general routine management," and we may add that he has been remarkably successful in the attempt. In the 54 pages devoted to his essay, he has briefly, yet clearly and comprehensively, gone over the whole ground of Grape culture, and in a plain, unpretending style, left no one of the many points of good Grape culture untouched. No one who wishes to obtain a knowledge of the principles of Grape culture, could lay down the work uninstructed. There are some things in the essay with which we do not agree, as we usually find in all works of a practical kind. This is all natural and to be expected. The results of practice, depending as they do on a multitude of contingencies, never permit parties to see things exactly in the same light. We should not, however, feel that we have any right to find fault with, or speak contemptuously of others because they happen to differ from us.

Mr. Saunders seems to take a different view. He takes occasion to advocate the bringing up of the subsoil to the surface in Trenching,—the ill effects of which, except in worn out surface soils, the majority of our best cultivators are but too well acquainted with. This is all very well. But when he goes further, and insinuates that they “who strenuously advise not to bring the subsoil to the surface,” are persons who have “buried four inches of subsoil beneath eighteen inches of brick clay,” and then characterizes parties who disagree with him as “the victims of their own folly and awkwardness, who condemn a system they do not understand,” he assumes a standard of infallibility we should be sorry to see often imitated in Horticultural essays.

In trenching and subsoiling, it is impossible *not* to mix some of the surface soil with the subsoil, and the whole becomes gradually ameliorated without any of the loss to a few season's crops, that follows the inverting process. But we are forgetting that we “do not understand the subject.”

The second part, by Mr. Cope, is evidently a maiden effort, by one young in Grape growing experience. The main part of the essay goes to show that the major part of the evils the Grape vine is heir to, arises from pruning it. He thinks they ought to be raised from seeds. “Nature is man's teacher;” “she never propagates by scions or cuttings,” &c., &c., &c.

All this is true,—none the less so for being repeated for the thousandth time—and the fact, that the nearer we leave things to a state of nature the more healthy they will be, need not be disputed. Nature does not clothe men with hat, coat or breeches; but leaves them to run wild, with a profusion of rough shaggy hair, the reverse of fashionable. With civilization comes a train of diseases and disorders the hardy children of the forest are exempt from. But we are willing to accept them with our refinement, rather than relapse into barbarism without them. And, when by pruning, we can get large, early, luscious grapes; tractable vines; and many other advantages, “too numerous to mention;” cultivators will be willing to accept the evils that accompany them, rather than to fall back on the scanty supply of “the saccharine,” nature affords us by “her method.”

Altogether this chapter is in strange contrast with the essay of Mr. Saunders. The one detailing the noble results of his triumph over nature, in which pruning bears no inconspicuous a part; the other following by an earnest attempt to show that “the whole system is based upon incorrect principles, and is, therefore, erroneous.”

The combination reminds us of a Cactus, in which it seems to us that “nature” took a notion to make the most grotesque looking object possible in the vegetable kingdom, and then to show her wonderful

power in extremes—though Darwin says “nature takes no leaps”—she here places on her grotesque productions, the handsomest flowers in the floral world.

It is, no doubt, from this Cactus-like view of making extremes meet in one work, that induced the publisher to christen the book “Both Sides of the Grape Question,”—a title we were at first at a loss to account for, as every cultivator has usually a side of his own.

The remaining essay by Mr. McMinna, is an excellent contribution to the scientific classification and popular history of the Grape Vine.

Some other books and periodicals are on hand, notices of which we reserve for our next.

New or Rare Plants.

ABIES INVERTA.—While our amateurs are waiting for the beautiful Weeping Spruce of Mr. Wales, (see page 135, vol. I.), the English nurserymen are out with another beautiful variety, which they call *Abies*



inverta. In habit it assumes the curved form of the

Kilmarnock Weeping Willow, but the leader straightens itself as it grows, as the common Weeping Willow does.

DIANTHUS CHINENSIS LACINATUS.—At page 174 of our first volume, we first called attention to the beautiful *D. Heddewigii*, which has since become so popular. We now present our subscribers with a new and improved double variety of the same species, which we have engraved from the *London Weekly Maga-*



zine. The whole section is becoming very popular as a hardy border flower, and will probably produce many new forms yet.

VACINIUM RUGOSUM.—A beautiful shrub exhibited the other day to the Floral Committee of the Horticultural Society as a *Thibaudia*, by Messrs. Veitch and Son, who received it from Khasya Hills through Mr. Lobb. Drs. Hooker and Thomas found it in the same country at an elevation of from 4—5000 feet, and also in Sikkim, where it occupied stations a thousand feet higher.

It forms an evergreen bush, with light green narrow leaves and little umbells of flowers, white at first but changing to deep red, with cross markings of a triangular form like those of *Thibaudia macrantha* of the Botanical Magazine, t. 4566, which is also a *Vaccinium*, as is the *Thibaudia pulcherrima* of the same work. At least such is the opinion of Wight, Hooker, and Thompson, with whom we concur; for no intel-

ligible character to distinguish these plants from *Vaccinium* has been pointed out. It is true that the name *Agapetes* has been applied to the *Thibaudias* of East Indian Botanists, but a change of name does not constitute a distinction.—*Gardener's Chronicle*.

DOUBLE FUCHSIA.—"Marquis of Bath" is said to be the best double now out.

DELPHINIUMS.—The introduction of *formosum* has given an impetus to this tribe, and it will soon be raised to the rank of a florists' flower. Many new varieties are now advertised.

NEW CELERY.—Ivery's "Nonsuch" is highly spoken of in the English papers.

ALYSSUM SAXATILE.—This is a hardy and very handsome early Spring blooming perennial fruticose plant, which should be in every garden; but a very worthless weed, *Alyssum argenteum*, is universally sold in the Seed-stores for the true Yellow Alyssum.

NEW SCARLET GERANIUM.—"The Beacon" has just been announced, as "like Tom Thumb," but having a white eye. "Sheen Rival" and "Christina," by the reliable raiser, Kinghorn, are also praised.

NEW DAHLIAS.—M. Seikman, famous in Germany as the raiser of "Deutsches Sonne," and other fine Dahlias, has recently sent out

Deutsches Grossmeister, brilliant shaded scarlet; large showy blossom.

Teutonia, pale pink or blush,—becoming darker as it opens,—changing to lilac Pink.

Kleiner Hermann, pale crimson, tipped with white—a Lilliputian.

Nacht en Rhein, black brown, watered with crimson, outer row of petals lilac. Said to be the grandest Dahlia ever raised.

Price, only Seven dollars and Fifty cents the four in American currency.

NEW HARDY SHRUB.—*Eleagnus parvifolia*.—We have recently seen a specimen of this charming plant, which has been out in the open air near Philadelphia, two years without the slightest injury. When we saw it in May, it was about four feet high, forming a dense bush with silvery Buffalo-berry like leaves, and covered with thousands of white blossoms, as fragrant as the sweetest Jasmine. We were informed that these are succeeded by large scarlet berries in August, and must have a delightful effect.

It has been but comparatively recently introduced into England from Nepal,—the figure being given in *Lindley's Botanical Register*, in 1843, and is yet in few collections there.

In France it goes under the name of *E. reflexa*, and we believe in some of the German Gardens it is called *E. umbellata*. It will be well for our friends, who may think of importing it, to remember these synonyms.

TWELVE FIRST-RATE TREE CARNATIONS.—

Amazon—yellow, with deep border of lilac.

Black Prince—deep maroon claret self, distinct.

Clara Novello—yellow margined and flaked with lilac and scarlet.

Flora McIvor—white, edged with rose.

Henriette Chauviere—white picotee, edged purple.

Jaques d'Aragon—brilliant crimson, clove scented.

Madonna—blush, striped and spotted crimson.

Reine de Blanches—large white.

Souvenir—pale yellow, pure self color, distinct.

Tricolor—white ground, with rose and carmine flakes, fine.

Clio—bright rose, in some flowers flaked with slate.

Emperor—yellow, with rosy scarlet margin, distinct.

BEST CHRYSANTHEMUMS.—The *London Weekly Gardener* gives as the best varieties grown for exhibition, the following, viz:

Themis, Nonpareil, Vesta, Anato, Beauty, Plutus, Yellow Perfection, Novelty, Arthur Wortley, Dupont de l'Eure, Golden Queen, Queen of England, Alfred Salter, Stellaris, Globosa, Marshal Duroc, Christophe Colombe, Goliath, Leon Lequay, Madame Andry, Formosum, Cassy, Albin, Rosa Mystica, Hermione, Aimée Ferrière.

As the leading varieties:—

Cedo Nulli, Golden Cedonulli, Mustapha, Sainte Thais, Bob, Brilliant, Helene, Aurora Boreale, Bijou, Bijou de la Horticulture, General Canrobert, Drin Drin, Madame Rousselon, Durufflat, Requi, La Vouge, Graziella, Salamon, and Adonis.

New and Rare Fruits.

WIZARD OF THE NORTH STRAWBERRY.—(See *Frontispiece*.)—We give this month a lithograph of this popular new English Strawberry, not so much because we think it will be well adopted to our climate, but to show the size the Strawberry has attained in England.

It is said to be the largest variety ever grown, and was raised from seed by John Robertson, of Linside, in 1853; first fruited in 1855, and exhibited before the Paisly Horticultural Society, July 16th, 1857, where it was awarded the first prize. A single plant shown at that time, yielded 70 berries, many of them of mammoth size, the largest being 9½ inches in circumference, though planted only fifteen months.

It is rather acid, very much resembling Wilson's Albany in this respect.

We are indebted to our friend E. Y. Teas, Richmond, Indiana, for the original plate from which our drawing was made.

We have given it in colors, the better to show its

character and to render the illustration itself of more value. As our paper increases in circulation by the efforts of our friends, we hope occasionally to be able to give other colored drawings of fruits or flowers.

NEW FOREIGN GRAPES.—The London Horticultural Society have fruited a number of new grapes the past year. The following appears to have favorable notices given them:—

Burchardt's Amber Cluster, received as Burchardt's No. 10, from M. Burchardt, of Landsberg, on the Warta.—This Grape, which was sent to the Society without name, resembles the Muscadines in quality, but has oval berries like the Clusters. Berries middle-sized, decidedly oval, amber-colored, or yellowish-white; skin moderately thin; flesh very sugary and rich. Leaves roundish, dying off green and pale yellow, like those of Reeves' Muscadine: in the latter, however, they are very pubescent or woolly; while in Burchardt's they are but slightly downy, with tufts of bristly pubescence in the axils of the veins. It is earlier than the Royal Muscadine, and this property, combined with its good quality, will render it a first-rate early white Grape. It appears to be well deserving of trial for early forcing purposes.

Bidwell's Seedling, from Mr. Pince, of Exeter.—Bunches and berries nearly as large as those of the Black Prince; berries small, round, bluish-black with a fine bloom; skin rather thin; flesh tender, melting, and very juicy, but somewhat acid, and having a disagreeable earthy flavor. Leaves resembling in form those of the Black Hamburg, but with a lengthened terminal lobe, and differing from that variety and from the Black Prince in being quite smooth above and below.

Fleming's Prince, from Mr. Fleming of Trentham.—Bunch large, loose, long, slightly shouldered; berries oval, larger than those of the Black Prince, to which they bear considerable resemblance; skin very thin, bluish-black, with a copious bloom; flesh tender, juicy, remarkably rich, and very sugary. An excellent Grape, but requires a little more vinous piquancy and firmness.

Morocco Prince, a seedling between the Black Prince and Black Morocco, received from Mr. Buck, of Elnford, near Lichfield.—Bunches about the size and form of those of the Black Prince; berries also similar in size, oval, but with a thinner skin, which is tough and membranous, reddish-black, with a thin bloom; flesh firm, juicy and melting, rich, sugary, and vinous. Leaves very deeply-lobed, open at the base, rather sharply and deeply serrated, pubescent beneath, slightly so above. A useful late Grape and hangs well, but in this instance has apparently not had sufficient heat.

Sideritis, from J. R. Neame, Esq.—Bunches very

large; berries of the largest size, roundish-oval or oval, frequently with a sutural depression, reddish-black, unequally colored; flesh firm, but hollow around the seeds, and with a deficiency of juice and flavor. Leaves large, sharply serrated, smooth above and below; shoots, red. A very strong grower.

BRINDLE GRAPE.—We find the following on our table, without any remark as to where the credit ought to belong, and we know nothing of it personally, but as we like to give our readers all the "intelligence" current, we insert it:—

Brindle—A black grape of very rich flavor, bunches resembling Black Hamburg, but not so compact; ripens from two to three weeks earlier than Isabella, and is a first-rate table grape. A free bearer.

ENGLISH "BLACK" RASPBERRY.—This is a hybrid between the Blackberry and the Raspberry, and is the parent of all the black autumn-bearing varieties, although itself a summer-bearer. It has long dark-colored canes, and small purple fruit, with much of the Blackberry flavor. This variety was obtained at Wethersfield, in Essex, upwards of forty years ago, and has since been cultivated by Mr. Rivers, who has succeeded in obtaining from it his new race of autumn-bearing varieties.—*Collage Gardener*.

TOWNSHEND OR SEAGER APPLE.—Tree vigorous, and produces good crops. Fruit large, roundish-oblate. Skin smooth, waxen, greenish-yellow, much shaded with brownish-red. Stalk slender, about an inch long, set in a smooth, deep cavity. Calyx small, closed, set in a moderately deep basin. Flesh white, tender, and juicy, with a rich and pleasant flavor. Maturity 10th of August to beginning of September.

The following is Mr. Sitgreave's sketch of its history:

The original tree grew on a tract of land owned by Indians near Lumberville, in Bucks County, Pennsylvania, and was of enormous size anterior to the Revolutionary war, when the tract of land was sold by the Indians, with a reservation "that the fruit of this tree should be free to all, as it had been to them and to their fathers."—*Horticulturist*.

Domestic Intelligence.

THE CAMELLIA JAPONICA A HARDY PLANT IN CALIFORNIA.—This gorgeous blooming evergreen, that so many people nurse so very tenderly, and keep housed with so much care, fearing that "the winds of heaven may visit it too roughly" is a perfectly hardy plant in all this section of our State. We publish this fact after having seen the many successful experiments which have been tried with it. The Camellias at Smith's gardens, Sacramento, stand out in his garden openly and bloom well. Mr. Smith has quite a

large collection in the open borders, and they bloom well. We have also seen them in various parts of this section of our State, and we urge those who love this very beautiful plant to try them. They should be planted, however, on the south-eastern exposure, to catch the morning sun; and they will do best if planted just under the edge of some fine large shrub, so that the foliage of the shrub or small tree may protect the *flowers while in bloom*, they being so perfect and so delicate that the sun and rains and dust would injure them; these do more injury than anything else. Care should be taken not to have them much exposed to the *hot sun* in our summers, as the sun *burns* the leaves of the Camellia; shield them from this exposure and all will be well, and these rare plants will be as bright gems in your garden parterre. The Camellia, the Magnolia, the Rhododendron, and Azalea, will form a galaxy of rare beauties that will gladden the eye and taste of the best connoisseur of floral beauties; and each and all of these can be easily and successfully grown in all our gardens.—*Cal. Farmer.*

AN OREGONIAN ORCHARD.—The Portland (Oregon) Advocate, referring to Meek and Eddy's orchard, at that place, says: "There are fifty acres of orchard and nurserygrounds. Forty thousand feet of lumber was used last year for making fruit boxes. This at \$20 per M., would cost \$1800. This year their business will require sixty thousand feet of lumber. From thirty-six to thirty-eight thousand bushels of fruit were cherries, pears and plums. The gross sales last year, above all freights and commissions, after the fruit left Portland, were \$30,000. The year before they were \$20,000.

A PERMANENT WRITING FLUID.—Dilute sulphuric acid and sugar, with a little sulphate of indigo and gum, is found to make a permanent writing-ink, proof against fading and erasure. By holding the writing to the fire the characters are converted into a jet black by the carbonization of the sugar.—*Scientific Artisan.*

OPIMUM FOR SQUASH BUGS.—A decoction of Poppy-heads has been found useful in preventing their ravages.—*Cor. Country Gentleman*

MR. LONGWORTH'S VINEYARDS.—Within the last twelve years, have been remunerative. This season they paid him a rental of about \$15,000—last year less than \$2,000. The income varies, with good or bad seasons. These vineyards are cultivated by tenants, who give half the product for the rent, and they differ in size, from five to ten acres each, or small tracts of land of fifteen or twenty acres. His first vineyards were planted forty-one years ago, with the Cape or Schuylkill grape; but in 1823 he intro-

duced the famous Catawba grape into notice in the West, and it is now the great wine grape of the country.—*Ohio Valley Farmer.*

THE following beautiful lines are from the pen of Mr. Sprague, the well-known Banker and poet, Boston, and originally appeared in *Putnam's Monthly*:—

TO MY HERBARIUM.

Ye dry and dead remains!
 Poor, wrinkled remnants of a beauteous prime!
 Why, from your final doom, should I take pains
 To stay the hand of time?
 The world would pass you by;
 For beauty, grace and fragrance all are gone.
 Your age is homeliness to every eye,
 And prized by me alone.
 Not beautiful, but dear;
 Your wrecks recall to me the happy past.
 Wandlike, your stems can summon to appear
 The days that could not last.
 I breathe the summer air!
 I wander in the woodland paths once more!
 Again the copse, the dell, the meadow, wear
 The loveliness of yore.
 Turned to the God of day,
 Your little lips come, prayerfully apart.
 With the soft breeze your leaves, reviving play
 Sweet music to my heart.
 The friend who in those years
 Shared warmly in my rambles far and wide,
 Back, with the same old fondness reappears,
 And trudges at my side.
 These are your charms to me!
 While such dear recollections ye awake,
 Your ruins, blackened, crumbling though they be,
 I treasure for their sake.
 May I, like you, dry flowers,
 When in young life I can no more engage,
 A dear memento be of happy hours
 To those who tend my age.

VENTILATING HOT HOUSES.—Mr. Chorlton says in the *Horticulturist*:—"A house where stove plants are grown ought never to have a front ventilator opened, nor yet a door, excepting while it is necessary to pass through, such has always been his most successful practice." Believing firmly in this doctrine ourselves, we introduce it to our amateur plant growers attention.

GARDENER'S MONTHLY TOMATOES.—At the autumn exhibition of the Massachusetts Horticultural Society, Mr. T. T. Clark presented for exhibition *one bunch* of Tomatoes which contained over fifty, and weighed ten pounds, and the single vine bore one hundred Tomatoes of large size, which splendid specimens, the Society honored by awarding the skillful grower a copy of the *Gardener's Monthly*, for one year, which was a hint, as we take it, that they expect him even to beat this another season, and send us the particulars of his practice for publication.

OBITUARY.

G. W. CARPENTER.—Though not distinguished in Botany or Horticulture, his eminent knowledge of Mineralogy, Chemistry, and the kindred Sciences, joined with his liberal patronage of Horticulture, his recent decease, in his fifty eighth year of his age, demands a notice in our columns. His magnificent establishment at Germantown is well known all over the Union, and the collection of large specimens of Australian and Cape plants is, perhaps, the finest in this country.

Mr. Carpenter's career is a standing rebuke to the doctrine that an ardent love of natural Sciences starves its enthusiasts. He was born of poor parents, in the then village of Germantown, in 1802, and received his education in the village school, still used for that purpose, on School Lane. After attending a lecture by the late Mr. Nuttall, he entered the Mineralogical class, formed under the guidance of that distinguished Naturalist, and went into the study with the greatest enthusiasm. He was at this time engaged as an assistant in a drug store in Philadelphia, but his whole time, from day-light in the morning till the hour of business, was spent in collecting material for his cabinets, and his evenings till bedtime were spent in studying and arranging them. Such was his assiduity that in his twenty-fifth year he sold his collection to a distinguished Philadelphian for twelve hundred dollars, and with the money started into the drug business on his own account the year following. Some years afterwards, at the death of the owner, Mr. Carpenter repurchased the collection at public sale, for six hundred dollars, and with it laid the foundation of perhaps one of the best private museums in existence. He was one of the most active of the original little band, who, under the greatest discouragements, succeeded in giving to the Philadelphia Academy of Natural Sciences, its present distinguished position, distinguished now both in the number of its members, and their learning and influence, and from 1828 to the present time, has been annually elected its Treasurer. Mr. Carpenter's love of Science, and assiduous attention to business, has been so well rewarded, that his capital of \$1200 in 1828, to the present time, 32 years, has so far increased that, at the last valuation by the city authorities, his tax assessment was but little short of half a million of dollars, and his actual wealth could scarcely be estimated. Mr. C., was never celebrated for ostentatious charities, a system by which the lazy and the indolent too often receive what the really deserving who suffer in silence need. His maxim was, that in the spread of knowledge and science lay the chief foundation of human improvement, and to this was his chief energy turned. In this one line no one sought his assistance in vain. The writer of this notice is

himself one amongst hundreds, who feel that in the death of Mr. Carpenter they have lost one whose aid and sympathy had no mean influence on their successful entry into business life.

Foreign Intelligence.

HOLLYHOCK CULTURE.—Chater, the celebrated improver, thus writes to the *Florist*:—

They may be propagated by single eyes in July and August, also by cuttings in the spring, placed on a slight bottom heat. Plants raised in summer are best preserved by re-potting them in October into large pots—the larger the better, in light sandy earth, and placed in a cold frame or greenhouse, giving plenty of air on all favorable occasions; they will then grow during the winter. In March or April turn them out into the open ground, and they will bloom as fine and as early as if planted in the autumn. Plants even put out in May will flower the same year. Plant them not less than four feet from row to row, and three feet apart in the row. If grouped in beds, not nearer than three feet each way. They will grow well in the shade of distant trees, but by no means must the roots interfere. In May or June, when the spikes have grown a foot high, thin them out according to the strength of the plant; if well established, and very strong, leave four spikes; if weak, two or three; when they are required for exhibition, only one must be left.

Foreign Correspondence.

From our Paris Correspondent.

PARIS HORTICULTURAL EXHIBITION.

Mr. Editor—Dear Sir: Our present show is but a poor one in every respect; neither quantity nor quality are remarkable. But the way to show the show is remarkable, and deserves notice. The building, to begin with, is no less than our *Palais de l'Industrie*, alias Crystal Palace, the middle of which, an oblong square, has been set apart for the show. You enter this square, and a garden is before you. Lawns, flower borders, a rivulet, fountains, a rustic bridge, and all the garden paraphernalia. The whole difference between this and another garden, being the uniform flat level, the glass roof above instead of the naked sky, and the character of the flowers and plants. How much pleasanter that is than a close room or tent, a crowd, and a vicious atmosphere, you may fancy. The beds are masses of a kind, or of a variety of kinds; a bed to each exhibitor. Pansies, Pelargonias, Erica, Gerania and Pæonia, in great va-

riety and beauty. A word about the latter. Pæonias are neglected in your—our—country; why, is perhaps hard to tell. Here they are so much in demand, that there exists no less than about one hundred and fifty varieties of either *P. sinensis* and arborea. There is one bed of Begonias. I notice *B. urania*, leaves as if powdered, *B. Madame Gruntberger*, small and serrated leaves, and *B. picturata*, not hairy, no border round the margin on the leaf, but a painted leaf indeed; a description of it would not paint it. There is also a large bed of *Canna Warcewiczii*, of which I was glad to remember your success in the United States with them. They are not less liked here, and deserve their popularity fully. It is just such a thing as the *Tritoma* and similar plants, which our gardens want, to get rid of monotony. *Cyanophyllum magnificum* is here, and for one I am disappointed. I heard too much of it before I saw it. *Attacea cistata*, an orchid, insect flower, struck me as deserving notice. Still more so the *Strelitzia regina*, with a flower like the head of an angry peacock. *Phyllocactus crenatus*, four feet high, in full bloom, flowers resembling the Passion-flower, is a sight for a *Cactarian*, as I know you are. No other Cactus exhibited but this one.

Azaleas, but not in great variety, are here; but not a single Rhododendron.

Vegetables but a very limited show. In our markets, however, we have had, for the last fortnight, Potatoes, Carrots, etc., in abundance; also green Peas, Cauliflower, Strawberries, Artichokes, plenty but not yet cheap. The Southern part of France brings the first weeks' of supply to Paris.

Returning to the Exhibition, the visitor must notice the lawn trees, and amongst them a beautiful *Abies nobilis*, 12 feet high, so beautiful that the owner, Mr. Jointer, offered it to the Empress when she expressed her admiration, and that the Empress accepted it as a present; leaves very compact.

A beauty of a different character—a female beauty—full of grace and tenderness, is *Araucaria excelsa*, so entirely at variance with the general rugged stiff, and cold aspect of Conifers.

Cedrus deodara viridis, a very fine and green var.

Abies Pindrow, heavy. *A. Douglassii*. *A. Nordmanniana*, my favorite fir. A Norway Spruce, pinched against its grain into the shape of a barrel. *Sequoia* or *Wellingtonia*. *Thuja* and *Biota*. All of them specimen trees, 12 feet high and less, thus enabling the beholder to form an idea of the real character of the rarer kinds, which he otherwise cannot see in the small sized plants.

I must not forget a *Salisburia pendula*, 16 feet high, very interesting, very pendulous and very spreading.

The exhibitors of garden fixtures, etc., are ranged round the borders of the garden. To cut it short, I

will say that all the glass houses seemed to me on the Crystal Palace model,—that is iron and glass; of a few I shall send you drawings. That artificial fountains, wire-work, bird-cages, trellisses, and all that description of goods, seemed to be in as large and varied supply as the French garden taste requires. And that I am yours, truly,

Paris, May 14, 1860.

Horticultural Societies.

LIST OF OFFICERS OF HORTICULTURAL AND POMOLOGICAL SOCIETIES.

For the information of those who wish to correspond with the different societies, we furnish a list of the Officers of as many of them as we have been able to procure, and hope to be furnished with any that are omitted. We insert only those societies of a strictly horticultural or pomological, and not of an agricultural character.

HORTICULTURAL SOCIETIES.

Name of Society.	President.	Cor. Secretary.
Pennsylvania, Phila.	M. W. Baldwin,	William Saunders.
Massachusetts, Boston,	Joseph Breck,	Eben. Wright, of } Brighton. } Dedham.
Hingham, Mass.,	Hon. Albert Fearing,	T. T. Bouve.
Maury County, Col- umbia, Tenn.	M. S. Frierson.	
Chicago Gardener's, Chester County, W.		
Chester, Pa.	J. K. Eshleman,	Josiah Hoopes.
Buffalo, N. Y.,	Jason Sexton,	William Coleman.
Poughkeepsie, N. Y.		
New York, (City)	John Groshon,	Thomas Hogg.
Cincinnati, Ohio,	William Orange,	E. P. Crauch,
Montreal, Canada,	Jas. Ferrier, jr.,	L. N. Davenport,
St. Louis, Mo.	William Glasgow, Jr.	Carew Sanders.
Cleveland, Ohio,	Dr. Edward Taylor.	
Genessee Valley, Ro- chester, N. Y.,	Joseph Harris,	C. W. Seelye.
Brooklyn, N. Y.,	Jno. W. Degrauw,	Edwin Scott.
Portland, Maine,	T. C. Hersey,	John W. Dana.
Kentucky, Louisville,	Thos. S. Kennedy,	Ormsby Hite.
St. Catharines, C. W.,	James Taylor,	Thomas Shaw.
Richmond, Indiana,	John H. Hutton,	W. R. Smith.
Keokuk, Iowa,	A. Bridgeman,	J. L. Tewksbury.
Fort Wayne, Indiana,	J. D. G. Nelson,	H. C. Grey.
College Hill, Ohio,	Jacob Tuckerman,	D. B. Pierson.
Workingmen's, Frank- ford, Philadelphia,		Thomas Hargreaves.
Progressive Gardener's Society, Philada.	W. Saunders,	R. Robinson Scott,
Meramac, Mo.,	Dr. A. W. McPherson,	Edward Vaughan.
St. Paul's, Minnesota,	Alexander Buchanan,	L. M. Ford.
St. Anthony's Falls,	A. E. Ames,	J. S. Williams.
Pittsburg, Penna.,	J. Knox, Pittsburg,	Thomas L. Shields.
York County, Pa.,	E. Chapin,	Edward J. Evans.
Toronto, Canada,	Hon. G. W. Allan.	
Hamilton, Canada,	(?)	
Cobourg, Canada,	(?)	

FRUIT GROWERS' SOCIETIES.

Name of Society,	President.	Cor. Secretary.
Western New York,	B. Hodge, Buffalo,	C. P. Bissell, Roch'r.
East'n Pennsylvania,	Dr. J. K. Eshleman,	Thomas N. Harvey,
Downingtown, Pa.,	Norman J. Coleman,	Jennersville, Pa. }
Missouri,		Dr. L. D. Morse, Allen town, Missouri.
Anna, Union Co., Ill.,	E. Harwood,	A. Babcock.
Georgia Pomological } Society, } Augusta.	L. Berckman, n',	W. N. White,
Ohio Pomological,	A. H. Ernst, Cin- cinnati, Ohio,	Athena.
Am. Pomological,	Marshall P. Wilder,	M. B. Bateman, Col- umbus, Ohio.
Dorchester, Mass.,		Meets in Philad'a, September 11th.
Conn. Grape Grow's,	Col. D. S. Dewey,	M. C. Weld, Hart- ford, Conn.
Hartford, Conn.	H. F. Askew,	Dr. G. Pepper Norris.
Wilmington, Del.		
Am Wine Grow's Asso. Cincinnati, Ohio.	Dr. N. B. Shaler,	S. W. Haseltine.

NOTICES of HORTICULTURAL SOCIETIES.

As the season is approaching for Fairs and Festivals, we should be obliged by reports of their proceedings in as condensed a form as possible. Our reports of the New Haven Lectures, and the Pomological Societies of Western New York and Eastern Pennsylvania, will give an idea,—that of New York, which was furnished the readers of the *Monthly* by Mr. Bissell, of Rochester, being a particularly excellent specimen of brevity combined with completeness. In the award of premiums the first prizes will usually be given, but, for the benefit of the reader, the NAMES of the WINNING VARIETIES must accompany the report. We have had to decline inserting several reports kindly sent to us recently, through this omission.

HINTS FOR HORTICULTURAL SOCIETIES.

BY GEORGE GLENNY.

We clip the following from an English exchange:

"The numerous questions put to us about the management of shows, of which there will be many new ones, must be answered by a sort of running article upon what has been done, and answered well. In the first place, judges should be from a distance, and not nurserymen or dealers who supply any of the exhibitors. There is general cost a guinea and their travelling expenses; but it is money well laid out. Secondly, they should be persons who have not been turned out for, or detected in, fraudulently showing themselves.

"Next, if the society is rich enough, buy the required tents, because hiring is expensive, and if you have a good one it may be made to bring its cost back by letting it out for fetes, etc. We, however, should go to such a man as Benjamin Edgugton, and buy just as long a tent as was required at first, but so planned that it could be added to any time without a stitch. If made to lace in the middle, any additional length can be put in, just as another flap could be put to dining-room table. We have had one of these tents 400 feet long, and it could be had, for that matter, a mile long. Tables are found by tent makers, and all can be had on hire.

"With regard to music, if there be any thing to take at the doors or gates and attraction is wanted, a military band will do more than all the hundred that form the orchestra at the opera. In outdoor fetes nothing is more effective than a good brass band. With regard to prizes, let there be few classes, but many prizes in each; for if there be only two or three, all small growers are deterred from showing, because the case to them would be hopeless. With regard to balloons, fireworks, etc., they must form the subject of another article.

"Country shows, well conducted, are the most perfect holidays for the whole district; and when a band is had from a distance, there should be a concert in the evening; it generally pays the expenses of the band."

FRUIT GROWERS' SOCIETY OF EASTERN PENNSYLVANIA.

The Semi-annual meeting of this Society was held at West Chester, on the 13th and 14th of June.

The large attendance and great number of new members enrolled, fully attested the importance attached to the proceedings.

The President, Dr. Eshleman, took the chair. Mr. Hines was appointed Secretary to the Publication Committee; and the usual general business of the society transacted.

The report of the Chairman of the Fruit Committee being called, Mr. Rutter responded by saying, that no reports had been received from the County Committees; which he attributed to the fact that they possibly understood that they were to be sent in at the annual meeting instead of the present, and the calling of the report was therefore laid over till the next meeting.

The want of the reports, furnishing no material for debate, a committee to draft a new subject for discussion, was appointed.

In the meantime, the committee to whom was entrusted Mr. Riegart's secret method of preventing the ravages of the Curculio, reported, that the material sent by the proprietor for the experiment; failed to reach them through the express, until too late for trial. Some experiments had however been made on other insects, with no beneficial effects resulting. The committee had little faith therefore in its success, but did not yet feel warranted in reporting against it until further trial.

Mr. Bull described his process of employing aloes, as translated by Dr. Ehler from Raspail's works, for the *Monthly*. The result was unsatisfactory. A friend had a Plum tree near a gas apparatus, that bore well. Gas tar, however, hung about the trees had no effect. Gas lime sprinkled over the Plum trees had proved valuable.

Mr. Hines recommended diluted Sulphuric acid to destroy the larvae under the trees.

Mr. R. R. Scott said corrosive sublimate, stronger than sulphuric acid, had been unsuccessfully tried.

Dr. Eshleman thought Hot-water, at 212 deg., might destroy the larvae under the tree, but not prevent them from coming from a distance. The Curculio had wings, and knew how to use them.

Mr. Rutter coincided with Dr. Eshleman, and yet thought that he had seen beneficial results arise from paving under trees. He supposed the instinct of the insect prevented it from depositing its eggs in fruit, which, when it fell, had not soft ground beneath for the properly maturing of the larvae. Paved trees over water, had at any rate been noticed as often free from their attacks. Had noticed that vigorous healthy growth in Plum trees, enabled the fruit often to recover and perfect itself in spite of the puncture of the insect.

Mr. R. R. Scott said, paving deprived the roots of air, and would render the trees unhealthy.

Mr. Pierce had seen fine healthy shade trees under brick pavements in side-walks.

Mr. Parry's faith was in shaking, and in shaking alone. It costs little, and was effective. A neighbor of his had a fine crop in his Plum orchard by its practice. He shook the trees every morning for five days,—put a sheet under the tree, whence to catch and destroy the insects. Collected 300 Curculio from one tree the first morning, and fewer and fewer each succeeding day. The fifth day there were very few left to kill.

Mr. R. R. Scott thought five days too little. Ellwanger & Barry continue the process for some weeks; a man is employed specially to jar the trees. They have fine crops.

Dr. Eshleman thought they never flew far after once having selected their breeding ground, and a few days would accomplish much.

S. W. Noble had partial success by shaking. All fruits were more or less punctured with curculio with him.

Mr. Baldwin and other gentlemen made further remarks, but the above is all the main points elicited.

Mr. A. W. Corson then suggested that there were some soils on which kinds continued to mature fruit, in spite of the punctures of the curculio,—or a healthy kind might have something to do with it. In a soil having a substratum of brick clay, had seen the Richland Plum bear a fine crop five times out of six, though the fruit were freely punctured. The Richland Plum was a pretty good fruit to eat, though not of first-rate quality. It was sometimes called the Copper Plum.

Mr. Rutter also said that in the northern part of Chester County plums were raised by the hundred bushels, in spite of the curculio; but they could not be in West Chester.

Mr. Bull said that he had the same kind of plum, but they suffered from the curculio.

Many other gentlemen participated in the discussion. The fact that in some soils and with some kinds the curculio is defied, and that shaking is the cheapest and best remedy, were the chief points of interest.

STRAWBERRIES.

Mr. Rutter thought the strawberry one of our most valuable fruits in its choice of soil, but believed much of the success depended on adapting the variety to the soil. He advocated stable manure as the best for general purposes.

Mr. Dingee, as to kind, preferred the Albany Seedling for general purposes,—the Hovey nearly as good.

Mr. T. M. Harvey asked for information as to the transmutation of hermaphrodites to pistillates; which, however, was not responded to.

Mr. Harrison gave an interesting account of his mode of culture, which was so very concise, and yet so full and valuable, that a brief notice would do it injustice, and our space will not admit of its full insertion. Its appearance in the regular proceedings will be looked for with interest. He spoke in high praise of the Pabody's Seedling, which under his system of good garden management, was not only a superior table fruit, but equal in productiveness, or nearly so, to any other.

Mr. Parry found an old clover sod the very best strawberry soil; but the cost of keeping such clear of weeds was three-fold that of a lot previously cultivated, and a great objection. He had, however, obtained 1600 quarts from half an acre of such land. Albany was a good fruit when left on the vine till fully ripe, but in that state would not carry to market. Kinds that could be gathered before fully ripe, and would ripen on the way, were preferable.—As a compost he mixed stable-manure and muck and left it together till the weeds and all were destroyed. Mr. Parry's remarks were also replete with interest, and will add much value to the Society's transactions.

A long discussion then ensued on the merits of the different strawberries. Each seemed to have his favorite, though most seemed to think that if confined to one, they would have Albany Seedling. On a vote there were—

For Albany	25
" Hovey	10
" Triomphe de Gand	7
" McAvoy's Superior	7
" Iowa	6
" Cushing	6
And for other scattering kinds	some 25

Many members abstained, however, from voting at all, through a difference of opinion as to the propriety of making a distinction

between "amateur cultivation" and "market purposes." Nevertheless, a vote was taken also on the former, and *Triomphe de Gand* obtained the highest number of votes, *Vicomtesse Hericart de Thury* being only one behind.

The strawberry discussion closed, and Mr. Saunders, of the *Farmer and Gardener*, read from the last transactions the resolution adopting the *Gardener's Monthly* as the organ of the Society. He had some resolutions to offer on the subject. He thought the more organs the more music.

Mr. R. R. Scott, of the *Weekly Pennsylvanian*, agreed with Mr. Saunders. If the Society sent their proceedings to one paper, the others would have sufficient respect for themselves not to copy them.

Mr. J. Jay Libhart explained that the *Gardener's Monthly* was the only Horticultural or Agricultural journal that aided in the initiatory steps that resulted in the establishment of the Society, and was the only paper represented at its first regular meeting. The Society considered it useful to itself to have some medium by which any particular announcement it might wish to make authoritatively might appear; and, under the circumstances above named, the *Gardener's Monthly* was applied to, and it consented. Mr. Saunders said he was not satisfied with the explanation.

A motion was made to adjourn till the next day, which was carried.

JUNE 14th.

Mr. S. S. Rathvon read an interesting essay on the Insects injurious and beneficial to the pomologist,—a long, but highly valuable document, which will be published in full in the Society's proceedings. In the course of his remarks, he alluded to the observations of Mr. Saunders the preceding evening, and stated that he had not written his essay with any view to its publication.

Mr. Thomas Meehan said, in reference to the remarks of Mr. Saunders and Mr. Scott, that he regretted extremely that any thing should occur to mar the harmony or disturb the good feeling that should characterize such an association. He had from the first opposed the project of making the *Monthly* the Society's organ, because he foresaw the possibility of jealousy arising, and he was opposed to all that had a tendency to make the peaceful pursuit of horticulture a bone of contention, or any thing but a source of pleasure and good will to all. It was only at the urgent request of the Society—which represented that it would thereby be doing the Society a good service—that he consented to permit it. He now moved that the resolution constituting the *Gardener's Monthly* as the organ of the Society, be rescinded. He wished further to say, that if any jealousy existed such as Mr. Scott spoke of, it was all on one side. He himself had moved, at the last meeting, the vote of thanks which had been awarded to the *Farmer and Gardener* and *Germantown Telegraph*, and had handed his own notes to the former paper before they had appeared in his own. He hoped the Society would adopt his motion. In whatever paper the Society's transactions might appear, he should still do his best to study the Society's interests, and those of the *Monthly's* readers, by copying from any source, whatever might be of value to the readers of his paper, without allowing any feeling of rivalry or jealousy to actuate him.

The motion was not agreed to. Mr. Meehan thanked the Society for their consideration, but regretted the action they had taken. He thought it important to their success to sacrifice a little to ensure harmony of action between all their members. He begged, therefore, to say, that after what had passed, he could not allow the *Gardener's Monthly* to be considered the official organ of the Society; yet, as an independent member of the press, he would render them all the aid he could in their valuable efforts in the cause of the fruit grower.

THE GOOSEBERRY.

Mr. Josiah Hoopes said there were two kinds called Houghton's Seedling. The real one had a drooping habit. The upright kind, he thought, was, more properly, the Cluster.

Messrs. Harrison, Marshall, Tatnall, Scott, Baldwin, Bull, Corson, Saunders, and others participated. All of their remarks tended to show that the gooseberry required a moist atmosphere, which in some instances had been effected by allowing the bushes to trail on the damp ground; growing them in the shade, even of weeds; or, which most members thought best, by sprinkling salt hay under the bushes. It was even recommended by some to grow them under glass, in order to obtain this moist atmosphere.

We have seldom listened to a more interesting discussion, and in which so many men seemed to agree as to the cause of trouble.

RASPBERRIES.

Mr. R. R. Scott gave a history of the Allen Raspberry, as he had seen it at Buffalo.

Mr. Harrison had seen a spurious kind in cultivation; but the genuine Allen—now generally known simply as the Allen Raspberry—was a good kind under proper culture.

A long discussion ensued on the profits of raspberry cultivation. Mr. Marshall stated that the smaller size, and greater labor of gathering, and the fact that but half the measurement of raspberries, compared to strawberries to the acre, could be obtained, it required considerable higher prices than strawberries to make it a profitable crop.

The members generally thought attention should be given to raising larger varieties.

YELLOWS IN THE PEACH.

Mr. Rutter thought the real cause yet unknown. He, however, gave his experience, showing that it can be communicated to healthy trees by inoculation.

Mr. Harrison had had a healthy tree side by side with one with yellows for several seasons without its catching it. Thought it was caused by want of proper elements in the soil. Had some experiments under progress to endeavor to test it.

Mr. Harrison was unanimously invited to prepare an essay on this and the Gooseberry for the next meeting.

Mr. Saunders thought it was caused by vitiated sap, sometimes caused by the freezing of unripe wood. Had never noticed the yellows in the peach-houses where severe frost did not enter.

APPLES.

The time had nearly arrived for an adjournment, and many of the members were absent. Some attempts were made to prepare a list worthy of general cultivation in the region represented by the Society; and after several unsatisfactory attempts, in the absence of the reports of the sub-committee, it was decided to adjourn to meet in Philadelphia in September, the date of which will be duly announced in time.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The display at the last stated meeting was, without exaggeration, one of the most brilliant that has been before the Society for a long time. The great extent of tables in Concert Hall being filled to their utmost capacity with very beautiful and well-grown plants, fruits and vegetables. The rain which was falling, accompanied by lightning and thunder, at and previous to the hour of the meeting, prevented many from attending.

Plants and flowers were exhibited by John Pollock, gardener to James Dundas; George Penn; James Eadie, gardener to Dr. Rush; John Gray; John A. Gehring; Peter Mackenzie & Son; Thomas Meehan; Henry A. Dreer; John Joyce, gardener to B. P. Hutchinson; William Joyce, gardener to M. W. Baldwin; Robert Kilvington; Charles H. Miller, gardener to D. Rodney King.

Fruit, by John Landers, gardener to S. T. Altman; William Joyce, gardener to M. W. Baldwin; John Gray; Thos. Mehgrau; G. Wenckler, gardener to J. F. Stever; A. L. Felten; William Parry; A. Felton, gardener to Henry Duhring; George W. Earl; Mr. Lenfestey.

Vegetables, by A. L. Felton; William Joyce, gardener to M. W. Baldwin; Thomas Meehan; James Matheson, gardener to F. Yarnall; E. G. Swift, and Thomas Mehgrau.

The following awards of premiums were made by the several committees:

For Fuchsias, the best to Wm. Joyce, gardener to M. W. Baldwin; second best to George Penn; third best to John Pollock, gardener to James Dundas.

Gloxineas, best to James Eadie, gardener to Dr. James Rush; second best to John Pollock.

Carnations, second best to John A. Gehring.

Petunias, best to Henry A. Dreer; second best to John A. Gehring.

Verbenas, best to John Gray.

Roses—Hybrid Perpetual, best to Henry A. Dreer.

Tea, best to the same.

Bourbon, best to the same.

Herbaceous Cut Flowers, best to Thomas Meehan.

Collections of Ten Plants—best to John Pollock.

" " Six Plants—best to James Eadie; second best to George Penn.

Specimen Plant—best to John Pollock; second best to Jas. Eadie.

Specimen Plants, One Pair—best to John Pollock; second best to James Eadie.

Table Designs—best to John A. Gehring; second best to Robert Kilvington.

Baskets—best to Henry A. Dreer; second best to John A. Gehring.

Bouquets—best to Henry A. Dreer.

Special Premiums to John Joyce, gardener to B. P. Hutchinson, for a collection of beautiful seedling Gloxineas. Also to John Pollock, for a collection of fine Gloxineas. Also to William Joyce, for a general collection of plants. Also to James Eadie, for a large collection of very beautiful variegated plants.

The Committee also called the particular attention of the Society to the following new plants:

Lobelia gracilis variegata, exhibited by George Penn.

Seedling Petunia fragrant, " John A. Gehring.

Dianthus, " Peter Mackenzie.

Seedling Carnations, " John A. Gehring.

The Committee on Fruits report the following awards, having, as they conceive, given very deliberate consideration to the various varieties of strawberries brought before them on the present occasion:

Black Grapes—Black Hamburg, best to John Landers, gardener to S. T. Altman. Best light colored to the same.

Strawberries—Hovey's, best to A. L. Felton; second best to Thomas Meghran Albany Seedling, best to G. Markler, gardener to J. F. Stever, second best to Thomas Meghran Any other variety, best Victoria, to G. Markler; second best, Keen's Seedling, A. Felton, gardener to Henry Duhring.

Cherries—best May Duke to William Joyce; second best, Black Tartarian, to A. L. Felton.

Special Premium to A. L. Felton for Strawberry named Felton's Great Seedling. Your Committee cannot see, however, any difference in color, size or flavor, from the Albany Seedling. They also beg to say that they cannot see any difference in color or flavor between the Victoria and Boyden's Mammoth.

Special Premium to William Joyce, for four splendid specimens of Fine Apples, in pots. They also call attention to a native Raspberry, of a bright red color and of fair flavor exhibited by J. F. Stever. They also notice dishes of Mulberries, Raspberries, Currants and Gooseberries, by various contributors. They also call attention to two dishes of Seedling Strawberries, named No. 1 and No. 2, both of red color and heart-shaped, of excellent flavor, and they specially solicit its exhibition again before they are entitled to a premium.

The Committee on Vegetables awarded for Potatoes, best to Jas. Matheson, gardener to F. Yarnall. Peas, best to Thomas Meghran; second best to Anthony Felton. Beets, best to Anthony Felton; second best to James Matheson. Also, Special Premiums to Anthony Felton and A. L. Felton, for Potatoes, too small in quantity to compete for the premiums. Also to R. G. Swift, for six superior heads of Crystal Cos Lettuce. They also call attention to a specimen of Rhubarb, Early Prince Imperial, exhibited by Thomas Meehan, and grown by Barnes & Washburn, Dorchester, Mass.

Mr. G. W. Earl brought in, too late to be laid before the proper Committee, some fine Amber Cherries, grown on standard, dwarf and plum stock.

A number of new members were elected, and a number more proposed.

The next exhibition before the Society will be in September, when one of the finest displays may be fairly expected, if those of the past few months form any criterion by which to judge.

HENRY HAY, Secretary.

BROOKLYN HORTICULTURAL SOCIETY.

A friend has sent us an account of the June Exhibition, from which we extract the following:

The June Exhibition of the Brooklyn Horticultural Society was held at the Atheneum. The display, all things considered, was very good, in some departments particularly so.

There was a magnificent collection of Roses, and some very fine fruit and vegetables. The Fuchsias were also numerous and good. In the department of plants, Mr. Louis Monand, of Albany, was, as usual, one of the largest contributors. An old and welcome contributor to the previous exhibitions of the Society—Ex-Mayor Van Vorst, of Jersey City—did not exhibit any thing.

Mr. Langley's garden was well represented in the department of plants.

In Cut Roses, Messrs. Dailledouze & Zeler and Mr. Humphries, of Hall Street, Brooklyn, made a fine display.

Mr. Reddy exhibited a dish of Gooseberries, which, appropriately to the prominent idea of the day, he calls "Tycoon Goose Eggs."

The Grapes of the several varieties were uncommonly good, and the Strawberries excellent. Of the latter, Mr. Edward Decker, Florist, of New Brighton, R. I., had some wonderful specimens for size and productiveness. The variety he exhibited is called "Chorton's Prolifer," and they need to be seen to be appreciated.

There were some immense sticks of Rhubarb; but of Peas, Currants or Cherries, there was nothing remarkable.

The three Floral Designs that drew prizes were very large and elaborately finished. That which drew the second prize was very tastefully executed.

We regret to find, from our friend's account, that the Exhibition was not very successful, either in interest or in a pecuniary point of view, no doubt partly caused by the unfavorable weather.

REPORTS OF MASSACHUSETTS HORTICULTURAL SOCIETY FOR 1859

Are filled with much interesting matter. Dr. Asa Gray contributes a paper on The New Plants of the United States, first introduced by the Cambridge Botanic Garden since it has been under his charge, of floricultural interest. They are: *Taxodium laevis*, *Berberis trilobata*, *Erysimum Arkansasum*, *Viscaria Engelmannii*, *Callitriche pedata*, *C. digitata*, *C. involucrata*, *Patonia Wrightii*, *Malvastrum Drummondii*, *Ungnadia speciosa*, *Sophora speciosa*, *Nerisium Alabamensis* (a beautiful shrub, of which we have an engraving in progress for our next), *Eleocharis Jamesii*, *Gaura Lindheimeri*, *Mentzelia* or *Bartonia ornata*, *Oenothera perennis*, *C. digitata*, *Megacystis californica*, *Cereus giganteus*, *Eupatorium Bethandieri*, *Aphanostephus ramosissimus*, *Gutierrezia gymnosperma*, *Lindheimeria texana*, *Cercopis coronata*, *Palafoxia Hookeriana*, *Gaillardia amblyodon*, *Agassiria suavis*, *Amblyolepis*

setigera, *Pentstemon Torreyi*, *P. Wrightii*, *P. baccharifolius*, *P. grandiflorus*, *Salvia Remeinana*, *Macromeria viridifolia*, *Datura meteloides*.

Many of these plants are now in all good collections; but it is not the less interesting on that account to know that we are indebted to one of our own institutions for their introduction.

KENTUCKY HORTICULTURAL SOCIETY.

HELD AT LOUISVILLE 24th, 25th and 26th of MAY.

The Spring Exhibition of the Kentucky Horticultural Society closed with a magnificent distribution of the premium fruits and flowers to the many charming ladies present. Each bore home a splendid bouquet or a basket of magnificent berries.

List of Premiums Awarded at the Fair of the Kentucky Horticultural Society, May 24th and 25th, 1860.

FRUITS.

Cherries—For the best quart to Judge John G. Taylor, Henry County, Ky.

" For the best display, six varieties, same.

Strawberries—For the best display, three varieties, to A. Hoke.

FLOWERS.

Hand Bouquets—First premium to Henry Nanz.

Table Bouquets—First premium to Moore & Serb.

Floral Designs—First premium Moore & Serb.

Roses—Best fifty varieties, E. Wilson.

" " thirty-five varieties, to Ellwanger & Fox.

" " fifty varieties, to E. Wilson.

Verbenas—Best twenty-four varieties, to Moore & Serb.

Fuchsias—Best twelve varieties to E. Wilson.

Scarlet Geraniums—Best three varieties to E. Wilson.

Pelargoniums—Best twelve varieties to Moore & Serb.

" " six varieties to E. Wilson.

Bedding-out Plants—Best thirty plants to E. Wilson.

" " twenty plants to Moore & Serb.

Greenhouse Plants—Best collection to Ellwanger & Fox.

Best Fifty Plants—Healthiest and best shaped to Henry Nanz.

It would be impossible to specify all the articles exhibited. The cherries that secured the premium were raised by that genial gentleman, Judge Taylor, of Henry County. They are called the Barbour. Mr. B. in the latter part of the last century having brought the seed from Virginia and planted them on his farm in Oldham County. They are the most delicious we have ever tasted.

We are pleased to learn that the Society intends to hold its weekly meetings and exhibitions in the Masonic Temple every Saturday during the season.

AMERICAN POMOLOGICAL SOCIETY.

As we go to press we are in receipt of the Circular calling the Society together in Philadelphia on the 11th of September. We will insert it in full next month, and make room for the following extract now:

"The various State Committees of this Society are expected to submit accurate and full reports of the condition and progress of fruit culture within their limits, together with definite answers to each of the following questions. These reports, it is desirable, should be forwarded to the Chairman of the General Fruit Committee, Hon. Samuel Walker, Roxbury, Mass., if possible as early as the 1st of September, or to Thomas W. Field, Esq., Secretary, Brooklyn, N. Y.

"What six, twelve and twenty varieties of the APPLE are best adapted to an orchard of one hundred trees, for family use, and how many of each sort should it contain? What varieties, and how many of each, are best for an orchard of one thousand trees, designed to bear fruit for the market?

"What six and twelve varieties of the PEAR are best for family use on the Pear stock? What varieties on the Quince stock? What varieties, and how many of each of these are best adapted to a Pear orchard of one hundred or of one thousand trees?

"What are the six and twelve best varieties of the PEACH? What are the best varieties, and how many of each, are best adapted to a Peach orchard of one hundred or of one thousand trees?

"Answers to these questions should be made from reliable experience, and with reference to the proximity or remoteness of the market."

SOCIETE ROYALE DE FLORE DE BRUXELLES.

The Exhibition held in March at the Botanic Garden is said to have been one of the finest in the world for the season.

Amongst the novelties exhibited we notice that M. Linden, of that place, the celebrated plant collector, had a new variegated leaf Begonia, said to be the finest yet raised, called B. "Duchesse de Brabant."



PAMPAS GRASS, (*Gynerium Argenteum*).

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

AUGUST, 1860.

VOL. II.—NO. 8.

Hints for August.



FLOWER GARDEN & PLEASURE GROUND.

At this season of the year many things that may have been transplanted the past Spring, may suffer from drought. This will be observed by the foliage having a withery look. Even plants that have been growing some years will at times present this moisture-asking appearance, especially if growing under the shade of walls or trees, or on terraces or embankments. They must have water—but a “little” is worse than useless, making the ground hard on the surface, and the little moisture in the soil therefore dries out the easier. A basin should be formed of the soil around the tree or plants, and several buckets full of water poured in, and suffered to soak away, after which the soil should be drawn back to its former position, lightly around the plants; moss or litter may then be placed on as a mulch, and nothing more will be required for the season.

We said last month that seeds of Hollyhocks should be sown as soon as ripe—this also applies to seeds of all hardy perennial plants, such as Daisies, Carnations, Polyanthus, Pansy, Phloxes, &c.

When White Lilies, or any other spring-flowered bulbous plants have done flowering, and the stems died away, they should be taken up and reset; the disease in lilies often met with is probably caused by their being too long in one place. Much of what we wrote of last month is still applicable to this, and will bear a reproof.

FRUIT GARDEN.

As soon as the Raspberry crop is over the shoots that bore the fruit should at once be cut out, and all the suckers not wanted for fruit the next season thinned out and taken away. These two points are very important in Raspberry culture. When rightly managed in this respect, very few crops are more re-

liable or more satisfactory to the grower than this.

In earlier hints for this department we have written of the importance of pinching off any strong shoots that may appear at the top of young fruit trees, and which if left would render the weaker ones at the base still weaker.

Since that early pinching, in very vigorous trees, a new crop of strong young shoots may have appeared at the top of the tree, which should again be taken off, and the lower branches will be much benefitted thereby.

This matter of pinching out strong growing shoots to strengthen those which we wish to become strong, is an essential point with those who require handsome shaped trees, and is of course applied in the infancy of the trees, when many hundreds may be gone over in a day. It would be a great expense, besides unnecessary with these objects in view, to go over a large orchard and pinch out the shoots. These remarks apply to the Grape-vine, as well as to the Pear, and indeed, to all kinds of fruit trees.

In the viney many parties commence to force grapes at the end of this month, but those who attempt this branch of the gardening art are already so well skilled in its details as to derive little advantage from any hints we could offer here. In the cold viney, the vines will now be ripening their crops, and will require little attention beyond stopping laterals, and as much as possible destroying insects that may endanger the health of the foliage.

Communications.

SKETCHES of DISTINGUISHED BOTANISTS

BY L.

II.—DR. FOTHERGILL.

Dr. Fothergill, of whom we have already spoken, rose to the highest eminence in his profession, and acquired a degree of celebrity, at home and abroad, seldom attained by the most ardent cultivators of the medical art. It may be questioned, whether he was most known to fame as a philanthropist or a physician; indeed, the life of this excellent man seemed to flow in one continued stream of fertilizing charity. In 1770 he founded and largely contributed to the

endowment of a Seminary for young Friends, at Ackworth, England. He also printed Penver's translation of the Bible, at a cost of £2000. At his expense, Mr. Bartram made his explorations through the Carolinas, Georgia and Florida, &c., which occupied five years; the fruits of which were given to the world in 1791, and will be noted under Mr. Bartram in this connection.

It is supposed that Dr. Fothergill gave away at least £200,000.

The person of Dr. Fothergill was of a delicate rather than attenuated make. His features were all expressive, and his eye had a peculiar brilliancy. His understanding was quick and comprehensive. There was a charm in his conversation and address, that conciliated the regard and confidence of all who employed him; and so discreet and uniform was his conduct, that he seldom forfeited the esteem he had acquired. He deceased in 1780, in the 69th year of his age.

Dr. Fothergill was an ardent botanist, and received from William Bartram his collections made in the Southern States, which were carefully preserved in his gardens at Upton, near Stratford in Essex. In 1835 the grounds still contained many large and fine specimens, among them *Populus canadensis*, 100 feet high, *P. dilatata*, 120 feet high, two cedars with trunks $9\frac{1}{2}$ feet in diameter at 6 feet from the ground.

Upton House gardens were commenced about 1762,—were sold at Dr. F.'s death, and were recently in possession of the late Samuel Gurney.

Linnaeus named the genus "*Fothergilla*," in his honor, plants of the order Hamamelidaceæ, or Witch Hazel.

The following testimony to the worth of this excellent friend of humanity, is by Dr. Franklin, and may not inappropriately conclude our very brief notice of him:—"If we estimate the goodness of a man by his disposition to do good, and his constant endeavors and success in doing it, I can hardly conceive that a better man has ever existed."

PEARS IN THE SOUTH-WEST.

BY THOS. AFFLECK, WASHINGTON, ADAMS CO., MISS.

[Concluded from page 204.]

No. 43. *Beurre Moiré*. A miserable, diseased abortion.

No. 54. *Bonne de Zees*. A year or two ago, this tree seemed to have become diseased, and, from the scabbed condition of the bark, seemed about to die. But it recovered, unaided by man, and is now a compact, handsome tree, 12 feet high and 6 inches through, full of foliage and of fruit.

No. 57. *Bonus Julie*. Only 7 feet high and $2\frac{1}{2}$ inches in diameter; of weakly habit of growth, yet healthy, full of foliage and of fruit.

No. 58. *Bonissime de la Sarthé*. A vigorous, fine tree, 10 feet high, 5 inches through; fine crop of foliage but not a pear to be seen.

No. 60. *Brougham*. A fine, strong tree, 12 feet high, and with a stem of 6 inches in diameter, yet the bark of the trunk has a rough and rather unhealthy look; foliage scant; fine crop set. My notes say that the fruit occasionally rots badly on the tree.

No. 202. *Vicomte de Spoelberg*. A replant, and a fine, thrifty young tree, 7 feet high, $2\frac{1}{2}$ inches through; yet I do not like its appearance altogether. Though white with blossom, there is scarcely a leaf out.

No. 116. *Gratioli of Jersey*. Unhealthy looking, yet full of fruit. A young tree.

No. 121. *Inconnue Cheneau*. Also a replant. Fine healthy young tree, full of fruit, and promise of succeeding well on quince.

No. 122. *Inconnue, V.M.* Same as above.

No. 208. *Bartlet*. Here stands four fine trees of this invaluable sort. They are upon common apple-quince, and amongst the oldest trees I have, say fifteen years or thereabouts; do not grow fast; more like large bushes, 7 feet high, stem near the ground about 5 inches through, branches sweeping the ground and extending, from tip to tip, some 8 or 10 feet; trees perfectly healthy and have borne some ten or a dozen successive heavy crops of superb fruit. What think you of Bartlet's ranging from 10 by 15 inches, up to $13\frac{1}{2}$ by 17 and even 18 inches around? Not a leaf or blossom yet expanded. I see, as yet, no evidence of disease in these trees.

No. 124. *Jalvie*. A handsome pyramidal tree, 7 feet high and $4\frac{1}{2}$ inches in diameter. Is now covered with a full crop of leaves, and an almost equally full crop of fruit. Fine crop last season.

No. 125. *Jargonelle*. Well do I remember this in the days of my boyhood, as the fine pear of its season. And it is, even now, not to be sneezed at! On quince, though free from disease, the growth is weakly and straggling; and, though covered each Spring with a heavy crop of its beautiful large snowy flowers, I have never seen a fruit matured—rarely one even set. At present there are some of good size. On pear the fruit is fine but not abundant.

No. 126. *Jean de Wille*. A handsome pyramidal tree, about 9 feet high, with scarcely a leaf out yet. Some promise of fruit, but has not been a good bearer.

No. 127. *Josephine de Malines*. A fine, thrifty, dwarfish tree, branched quite low; full of leaf but few blossoms. Do not remember of its ever bearing.

No. 128. *King Edwards*. A fine robust tree, with large rich foliage fully leafed out. About 9 feet high and 5 to $5\frac{1}{2}$ inches diameter. Some few fine branches of fruit set; but has been rather a poor bearer.

No. 129. *Leon le Clerc, V.M.* Good thrifty tree;

scarcely a leaf out yet, though good promise of blossom.

No. 131. *Lewis*. Had great difficulty in keeping alive the original imported tree, so weakly is the growth. This tree, on quince, is handsome and vigorous, 9 feet high, 5 inches through, and full of leaf and fruit. Bore a heavy crop last year.

No. 132. *Louise Bonne de Jersey*. Several handsome trees of this noted sort. But not so much so nor so productive, nor fruit so fine, as descriptions had led me to expect. They are healthy, thrifty and bear moderate crops of pretty good fruit; that is all. These trees are 9 to 10 feet high, and fully 5 inches through.

No. 134. *Maria Louise*. Growing upon a very poor spot, and has hardly a fair chance; yet it is a handsome thrifty tree. Few leaves or blossoms as yet. Not a great bearer.

No. 136. *Miel de Waterloo*. A fine, healthy tree, but of very straggling habit; 10 feet high and 4 inches through. Few leaves, but a cloud of blossoms. A very fair fruit and good bearer.

No. 137. *Milto de Nancy*. A handsome little tree, but no bearer. Not very healthy, I fear.

No. 196. *Doyenné Boussock*. A replant. A healthy young tree, of straggling habit. Has not yet borne, but now shows some bloom, with leaves about half out.

No. 130. *Leon le Clerc de Laval*. Same as above. Fine promise of bloom. If it can bear up under such a name, it will do.

No. 148. *Pusse Turdive*. A pretty tree, which has borne some very superior fruit, but is not now entirely healthy. In full and fine leaf, but no blossom. Bark of stem and main branches quite scabbed.

No. 151. *Poire de Fer*. One of my favorites on quince, "from pear" though it be. A fine, healthy, hardy, but open-growthed tree; bears well, a nice, sweet fruit, though not very highly flavored; but sound and keeps, and carries well to market. Its large, downy foliage about half out, with a noble crop of fruit setting. This tree is about 10 feet high and 6 inches through.

No. 153. *Princesse Marianne*. A very nice young tree, 10 feet high, 5 inches through. Shows at least 6 inches of the quince stock above ground, yet the pear does not overgrow. Full of leaf, but few bloom. Should be let 7 or 8 inches deeper into the ground. Hitherto overlooked.

No. 154. *Princess Royal* (Groom's). A fine young tree, with an awkward habit of growth; 8 feet high $4\frac{1}{2}$ inches in diameter. About half leafed out; fine crop setting; bears moderate crops.

No. 156. *Ramilies*. In a very poor spot, and yet a handsome tree; scarcely a leaf out; plenty of blossoms opening. Bore a too heavy crop last year for

the care bestowed on the tree.

No. 159. *Rousselet de Rheims*. Also in poor, very poor soil; open, straggling habit, yet healthy. Bore a heavy crop last year and promises a fair crop at present.

No. 160. *Saint Denis*. A miserable, sickly little specimen, 6 or 7 feet high and 2 inches through; scurfy and diseased; yet bore some good fruit last year, and promises more now.

No. 161. *Saint Germain*. Was as fine and healthy a looking tree as is on the grounds, always bearing and ripening full crops. Was permitted to mature so heavy a crop last year, under such utter neglect, in my absence, that it is now dead! after having partly leafed out and covered with blossom. A serious loss and inexcusable. The fruit is fine and keeps well. Tree 9 feet high and 5 inches through.

No. 162. *St. Germain*, 's. *M*. Small, but handsome tree. Bore a tremendous crop last year; none this season. Now in full leaf.

No. 163. *Saint Germain*, (Uvedale's). A fine, sturdy but straggling tree, covered with pale, large, rich foliage, and a few large fruit set. Tree 7 feet high and $3\frac{1}{2}$ inches through.

No. 164. *Saint Laurent*. Small, well formed, but not healthy. No leaves yet; white with blossoms.

No. 165. *Saint Lezin*. A pretty tree, in spite of its miserably straggling habit. Full of large, glossy foliage and fine fruit, well set. Quite productive.

But I must hold up for the present; fearing that, after all, I may be giving you too lengthy an article for your magazine. My next will complete it.

GRAPE INSECT.

BY R. A. GRIDER, EASTON, PA.

Mr. Editor:—The Catawba vines in our neighborhood have for several years been suffering—which we attributed to various causes.

This year the same disease appeared, and much more wide-spread than heretofore, destroying all hopes of fruiting,—reducing our Catawbas to a mere wreck or ruin, and to a state of leprosy, fit only to be cut down to sprout anew from the ground.

When the young shoots appear in May and June, when very tender, and the young leaves are about putting forth, an insect deposits its eggs in the shoots. At first the brood is hardly visible to the naked eye; when viewed through a magnifying glass they appear a clear white, and quite transparent; as they grow older they expand, become egg shaped, and change color to yellowish white, and sometimes stand out from the shoot with one of the narrow points to the shoot; the insect still in its enclosed shell or egg appears to feed on the shoots, leaving a wound wherever an egg was deposited. The shoot at first becomes veined and blotched with a beautiful rose color,

then purple and rose, and lastly brown, as if seared with a hot iron. The shoot sickens, the leaves turn brown and shrivel, the blossoms turn brown ere they open, and the vine is a wreck, full of putrifying sores.

The above are facts beyond dispute; we will now state what we deem to be the cause of the mischief; and, although we believe to have discovered the real cause, yet we might be in error:—A small, light green insect, being about one-fourth of an inch in size, (when viewed through a magnifying glass it has four wings, two large eyes, four or more legs, and a sharp pointed body,—with a dark sting, and appears to be of the grasshopper species); appears to be very active morning and evening; during the warm days it hides under the leaves, and is very shy when approached—we take to be the cause. We have mentioned our case to a friend whose attention had not been called thereto this year, but who has suffered by the same cause; he says that he immediately tried Whale-oil Soap and also air slacked lime, both have destroyed the brood.

I have sketched a shoot from nature showing the effects of the attack; if you deem proper to use the same for the benefit of others you are at liberty to do so.

[The drawing sent exhibits the Grape vine thrip, which is so very destructive in greenhouses, where it is destroyed by tobacco smoke; we never knew it to attack out door grapes before, and are unprepared with any remedy.—Ed.]

SUGGESTIONS FOR PEACH GROWING IN OHIO.

BY E. FRYER, DAYTON, OHIO.

The peach buds in this section of Ohio, were all killed by the hard freezing in December last, notwithstanding the wood being well ripened in the fall. At the south of this state—around Cincinnati, they were also killed, with the exception of those planted on high and favorable situations, while at the north, in the neighborhood of the great lakes, they were spared. Why this difference in favor of a higher northern latitude? probably the moisture evaporating from the waters before being frozen was the cause; if there is any other will some person in that region inform us through the *Monthly*. Pears, Cherries and smaller fruits generally, are safe so far, but strong canes of Lawton Blackberry have been killed growing on clay loam underdraining.

The thermometer at Dayton fell to 15 degrees below Zero on the night of the 8th of December last, at Cincinnati on the same night, according to the tables of Professor Wilson, as published in the "*Cincinnati*," it stood at 40 degrees at 9 o'clock, P. M., and on the following morning it was 4 degrees below Zero; but if we consult the point at which it probably

stood at midnight, we have a fall of about 48 degrees in the short space of four hours; the effect of such a sudden and important change seems to have been felt by the peach in particular. I am credibly informed that only once during the last eight years has there been a *general* crop of peaches in this neighborhood. Would it not be worth while to seek a remedy for this state of things; planting on high places, from 200 to 400 feet above the sea level; planting much closer than the ordinary distances; in each case training low bushes, training young plants obliquely, say at an angle of about 30 degrees, (on a single stem or main shaft, keeping side branches small by pruning); the latter could be bent down and covered with earth, this would save the buds while in their dormant state, in any latitude where the wood of the peach would ripen. These remedies or rather suggestions I think would be worth a trial by those who grow this important crop, which, whether for profit or private use, its pecuniary value is the same. *June 5th.*

[In such a precarious locality for a Peach crop, a Peach-house would be a source of *great gratification* to a private horticulturist, and of great profit to a market fruit grower.—Ed.]

GRAPE GROWING.

BY WM. BRIGHT, LOGAN NURSERY, PHILAD'A.

Since the publication of my work on Grape Culture, advocating the use of dwarf vines, or very short canes, in the vineyard, with no arms or upright shoots, a set of writers have sprung up who advocate most strenuously a no-pruning system for the Natives; the wildest and most unrestrained growth of branches and laterals over high trellisses, houses and trees, as the only true and proper system for American Vines.

Mr. McMin, in an essay recently published, says: "To attempt to confine their growth to mere stakes will prove a failure on all our native species."

I take issue with them all on this point, and assert that the most healthy canes, and the best crops of Grapes can be grown in the vineyard, on native vines, with a single stem not over six feet long: and that I can produce, on such a cane, a crop of fruit having six qualities, required for perfection in Grape growing, viz.:—ripeness, color, flavor, size of berry, size of bunch, and weight, that will excel in all or a majority of these points, any crop that can be obtained from any unpruned cane, of equal age, six hundred feet long, more or less.

The truth is, only those who have worked for years over the Grape vine, can fully understand its nature, requirements, power of endurance, and capacity. When I recently announced that the foreign vine would stand any degree of heat, in the graperie, short of 212° of Fahrenheit, *provided sufficient moisture*

were present in the house, many persons stared with incredulity. But such is the fact. There is really no danger in heating a house to a degree which would make any man not accustomed to it, fall dizzy and insensible in fifteen minutes, if the house be very moist.

For the benefit of the incredulous, who may really wish to be convinced of the fact, I will repeat an experiment I have often exhibited to my friends:—I will take one of my houses, over two hundred feet long, with its many hundreds of valuable pot vines, and in their presence shut it up as tight as possible, at noon, in the hottest day in July or August, under a bright blazing sun, and make the hottest fire you can with wood, in the furnace and flue, and carry the heat to 175° or more, without injury to the vines in an hour's time.

Another point. It is commonly supposed that it will not answer to syringe the foliage of growing canes with cold water when the house is much heated, the sun is shining, and the vines are flagging. This is a mistaken notion. I would prefer to wet the border with warm water at such a time, but I have proved by experiment that the foliage will stand a cold dash, under the conditions above named, not only without injury but with decided advantage. With a house at 115°, vines in pots flagging, and a blazing sun, at noon, I have thrown four hundred gallons of cold water, as cold as 50°, over the whole stock of a house 180 feet long, with a forcing-pump syringe, with a most refreshing and invigorating effect. I have myself rode on horseback, at a full gallop, ten miles in the hottest day in July; and coming off the horse, reeking with perspiration, I have taken a cold shower, with water drawn immediately from the bottom of a deep, cold, rocky well, and scarcely felt the shock of it. So I have I gone from the vapor bath, at Sanson Street Hall, out of a current of steam, nearly hot enough to scald the skin, covered with perspiration, and blazing with heat, immediately under the cold shower, not only without a shock, but with the most delightful sensations of dripping coolness. The grape vine can stand the heat better than a human being can, and when so heated I feel convinced that the cold water falling upon its foliage from the syringe, in a sort of shower or mist, in a hot sunlight, gives it no shock, but rather proves refreshing and invigorating to the heated tissues.

If the air of the Grapery be very hot and dry, then flagging and mildew will speedily ensue; but if you have plenty of moisture, no degree of heat that can ever be created, by sunlight or flues, under ordinary circumstances, will ever prove of much injury to grape vines. To maintain a uniform and healthful degree of humidity in the grapery, without constantly syringing and wetting the floors, I have recently in-

troduced into some vineries which I have erected, large shallow *evaporating troughs*, sixteen or eighteen inches wide and four inches deep, running the whole length of the house, so arranged as to be filled with water in hot dry days, or left empty in cold damp days. These troughs also serve an admirable purpose, by keeping a large supply of warm water ready for watering the pots and borders.

I also, in regulating the moisture of the house, make use of the *Hygrometer* to ascertain the precise degree of dryness or moisture existing in the atmosphere, as the temperature changes; for neither the presence of water when no evaporation takes place, nor ones own feelings can form an accurate guide as to the real state of the atmosphere. But this useful little instrument gives you at a glance the precise Hygrometric state of the air, and, by a slight calculation, you may know the number of grains of water held in suspension by each cubic foot of air, or the comparative or absolute dryness or moisture of the house, with mathematical certainty. I have a table prepared which shows all these points, in a moment, without calculation; and a little use of the instrument enables one to judge of the condition of the house before the vines show the effect of excessive dryness or excessive moisture, by flagging or by mildew. It may not be generally known that, under ordinary circumstances, an increase of 21° of heat just doubles the absolute dryness of the atmosphere, unless means be taken to saturate the air with moisture; but fortunately, while the atmosphere, at a temperature of 5° above zero, will hold in suspension only about *one* grain of vapor in a cubic foot of air, at 95° it will hold in suspension *seventeen* grains; and as fast as this is taken up by plants, the air greedily absorbs more moisture. These are important facts.

In my management of grape vines, I admit but little air during the changeable weather of Spring, but I watch the hygrometric condition of the atmosphere with the utmost care. I like to swell out my canes with plenty of moisture during hot days, early in Spring, and stop them in and concentrate their energies upon short canes, and harden them off early in the season, and thus get up a good constitution for future service. Whether all vines will stand heat and cold water, as mine will when properly grown, I cannot say; perhaps it will be well for some people who have rather a weak stock about them, to be cautious in their hydropathic applications; but what I have here stated I will show to anybody worth talking to, any fine day they please, at the Logan Nursery.

[We have no doubt but that had Mr. Bright lived in a more particular age, he would have been burned at the stake, as an heresiarch of the most dangerous kind. Notwithstanding his evident unorthodoxy on

many old-fashioned cardinal points, a recent visit to his place satisfies us that he is any thing but a *cheval outré*—a broken-winded horse—on grape growing. A more beautiful sight in that way, we have never seen.

We have struck out a challenge of \$200 in favor of his system, from the article, as being unsuited to our columns. A visit to his plants will prove more than his wager.—Ed.]

GRAPE ROT.

BY R. A. GRIDER, BETHLEHEM, PA.

The rotting of green Grapes has been attributed to various causes.

- 1 To want of proper nourishment in the soil.
 - 2 Excess of moisture.
 - 3 Want of moisture.
 - 4 An insect depositing its brood into the bloom.
- (See *Scientific American* of May 19th, 1860.)
- 5 Heat.
 - 6 Cold.
 - 7 Mode of pruning.
 - 8 Exposure to the sun.
 - 9 Bursting of the stems.
 - 10 Want of circulating air.
 - 11 Roots going into the subsoil.

Your *Monthly* being designed to aid gardeners and fruit growers, and as thousands of persons have been losing their grape crops by rot, and as no single cause has yet been described, and no remedy been found, I would ask a place for the above in your magazine, being desirous to gain light on the subject, and believing that its discussion will perhaps benefit great numbers.

Suggesting to all who deem the above worthy of notice, to state in *what kind of soil* their vines are growing—whether moist or dry, underdrained or not? and whether the rot takes place during dry or wet weather?

[All of the causes named will produce the Grape Rot, which is a consequence of previous disease. When by any of the above extremes the sap becomes vitiated, a small species of fungus attacks the berry, and speedily destroys it. The fungus is often supposed to cause the rot. Our own opinion is that it will never attack a perfectly healthy subject; the rule seems to us absolute, that what is favorable to the growth of fungi is unfavorable to the health of vegetation more perfectly organized. We shall, however, be glad to have the views of some of our intelligent correspondents.—Ed.]

TREES OF THE MISSISSIPPI RIVER.

BY D. O. REEDER, ORION CO., TENN.

In front of my present residence there is a yard of perhaps two acres. In this small space I have coun-

ted fourteen varieties of trees, constituting a fine miniature park; which trees I will name, to give an idea what a variety of growth there is here on a small space of ground:—Slippery Elm, Swamp Elm (?), Sycamore, Sassafras, Hornbeam, Hackberry, Wild Plum, Boxwood, Swamp Maple, Black Walnut, Red bud, Ash, Cottonwood and Persimmon.

This is on the Mississippi River, and in what is known as Madrid Bend. The surface soil is a clayey loam, mostly; occasionally sandy loam, from a few inches to four or five feet thick, resting on a base of pure sand of unknown depth. In many places this sand crops out—such patches are called "Sand-blows."

In addition to the trees enumerated above, I have noted the following in the country:—Yellow Poplar, Sugar Maple, Hickory, different Oaks, Holly, Chestnut, Swamp Willow, Red and Black Haws, Dogwood, Black Gum, Sweet Gum, Cypress, Catalpa, Kentucky Coffee-tree, Black Locust, Common Thorn, and another tree like it in bark and foliage, but has no thorns. I should like to know the true name of this tree. [Send us leaves.—Ed.] It is a very graceful and tall tree. I have noticed but two trees of this variety, of the Mimosa type, in any other State,—Common Beech, and, I think, another variety. One variety of the Cucumber, Wild Cherry, Mulberry and White Walnut.

There is another small tree, with foliage like the Sumac, but has sharp spines on it. Tennesseans call it "Tare Blanket." [*Xanthoxylon fraxineum*, probably.—Ed.] There are other small trees growing here, the names of which I do not know. The Common Alder often grows to a great size here. One was pointed out to me on the border of Reelfoot Lake, that must be 20 or 30 feet high and 6 or 8 inches in diameter. [Possibly *Alnus glauca*, but we never heard of its growing so far South-west. Send us a leaf.—Ed.] Some farmers plant them in their yards. They make a very bushy top tree if not trimmed. If trimmed the branches die.

The Holly, Chestnut, Poplar and Cucumber, do not grow in the "Bend," but grow on the uplands of the country. On the other hand, I find many kinds of vines growing here that are not indigenous to the uplands. The Virginia Creeper, Poison Vine, Trumpet-flowered Vine, Wild Clematis or Virgin's Bower, Wild Grape, and many other vines, climb up every thing they find in their way.

There is one variety of the Trumpet-flower that blooms about the first of May. The flower is pale crimson, with a buff color on the inner walls. I saw one Trumpet-vine, of the scarlet kind, that was one foot in diameter. But this has grown too long. I may give other notes on trees and vines, in another communication.

FOREIGN STRAWBERRIES.

BY JOHN SAUL, WASHINGTON, D. C.

I send you this day, by Express, a small box of Foreign Strawberries, [Noticed in our last.—Ed.]—

1. **VICOMTESSE HERICART DE THURY.** This variety with us is now nearly over, and it has, as on all previous occasions, proved in every respect A1—medium size, bright color, flavor exquisite; whilst it is very productive, and of so robust a constitution that it is proof alike against our most intense cold or fiery heat. Our great Strawberry growers, Messrs. Slater & Cammack, have grown this to great perfection the past Spring. The writers against Foreign Strawberries are already procuring plants; and in the midst of opposition it is working itself into general cultivation.

2 **VICTORIA (Trollope's).** This noble berry has come out finely the past season. The two gentlemen already named have brought it into our market in the very highest state of perfection. It is a fine cropper, large, good flavored; but in this latter quality not to compare to Vicomtesse. The color you will observe is bright and good, though writers have abused it on this head; perhaps they had never seen a well ripened berry.

3 **COMPTE DE FLANDRE.** Another excellent Strawberry of the same race as Victoria, Alice Maud, &c. Fruit of good size, bright color, high flavor; an abundant bearer, and very hardy, passing unscathed through our hottest and coldest weather.

4 **SEEDLING ELIZA.** This may probably be set down as our best large Pine Strawberry—belonging to the same class as British Queen, Kirtly's Goliath, &c.—it is much hardier and not inclined to burn,—indeed, will endure any heat or cold that any Native Strawberry will. It is uniformly a good bearer—a heavy bearer—fruit very large, conical; bright color, fine flavor. A superb large reliable variety.

5 **LA REINE.** Belongs to the same family as the preceding; alike hardy and vigorous in growth, with large, firm, enduring foliage, and, like that, forms large crowns, which throw up robust spikes of bloom and fruit. A large fruit, bright color, good cropper; fruit somewhat similar to the preceding, but more globular.

The above are all excellent Foreign sorts. Every amateur who grows a Strawberry should possess them—as well as market gardeners, who will give them ordinary good culture, they will find them more profitable in the end than the little scarlet varieties, so universally grown—as they invariably bring three or four times the price in market.

NEW VEGETABLE.—*Deutsches Magazine*, "says Dr. Seibold, has introduced a new and valuable vegetable from Japan, allied to Salsify and Scorzonera. It is called *Lappa Edulis*, botanically."

HYBRIDIZING THE PEACH WITH THE PLUM.

BY DR. WYLIE, CHESTER, S. C.

It is stated in some of the journals that I exhibited fruit, the result of hybridization between the Peach and Plum, this is a mistake. I did exhibit fruit in 1857, the result of a cross between the Heath Cling Peach, and Columbia Peach, which took the premium at the S. C. fair; and also fruit, the result of a cross between the Blood Cling and Boston and Hardwicke Seedling Nectarines. The mistake has probably originated in this way:—Sometime last winter I was corresponding with Mr. Silas McDowell, of N. C., and spoke of exhibiting a cross-breed between the Heath and Columbia Peach. I may have (in writing hurriedly) not written very legibly, so that Mr. McDowell may have understood me to say that I had succeeded in producing a hybrid between the Heath Cling and Columbia Plum. I have experimented extensively in hybridizing not only fruit but other plants; have tried frequently to cross the Peach and Apricot, without success; have also tried the Peach and Plum without success.

Some of my crosses between the Peach and Nectarines are, very beautiful, but owing to my bad locality my Peaches are cut off almost every Spring. In the Spring of 1859 I commenced hybridizing Grapes, and now have about three hundred plants, some of them two and three feet high, (having been started in pots in a hotbed). I am now inarching some of them with the young shoots of strong stocks, so as, if possible, to make them bear next year. The following are the natives hybridized by me in 1859, with the best foreign varieties. Delaware, Herbemont, Lenoir, Catawba, Scuppernong, Bland. The foliage of many of the plants resemble the male parent more than the female; the foliage of two of the Delaware hybrids resemble precisely the White Muscat of Alexandria. I have my Delaware hybrids all inarched, so as if possible to make them bear next year. I have gone into it more extensively this Summer, and have the Delaware, Diana, Anna, Halifax, Negoochee, Pauline, White Fox, Clinton, To Kalon, Scuppernong crossed (some of them *vice versa*), with B. Hamburg, B. Prince, R. Muscadine, Syrian, &c. In hybridizing I adopt several precautions to attain success, which are not detailed in books, so far as I know. I enclose an exact drawing of one of my cross-breeds.

[On reading in the *Cincinnatus* for May, Mr. McDowell's original article, we understand him to say that he "saw" that the Nectarine and Plum had been hybridized by Dr. Wylie, and goes on to describe it as "a fruit of exquisite beauty and taste." We believed it to be impossible; but the positive nature of the statement staggered us a little, and we wrote to

Dr. Wylie for an explanation, which he has above kindly given.

The colored drawing of the hybrid Peach and Nectarine is very beautiful, and we regret that a wood cut will not do it justice. It is smaller than the average of Peaches, with the rich color of the Nectarine. —Ed.]

INSTRUMENT FOR TRIMMING TREES, HEDGES, &C.

BY G. L., PARKERSBURG, VA.

I send you a rough sketch of a little instrument I find convenient in trimming evergreens, hedges, &c., to any desirable shape.

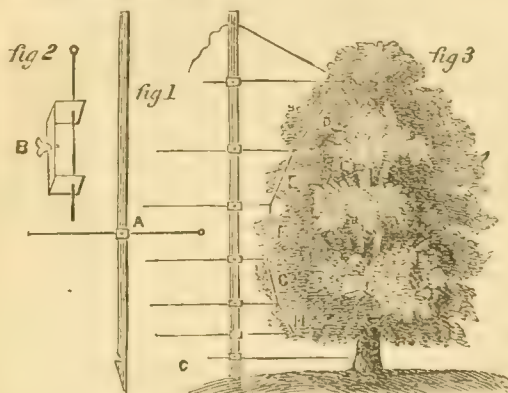


Fig. 1. is a piece of ash 2 inches wide, and $1\frac{1}{2}$ inches thick, and 7 feet long, with an iron point, having a notch on one side in which to place the foot, and press it in the ground. A. is a piece of stiff wire about 3 feet long, having a loop or eye at one end. This wire passes through the clasp as shown in fig. 2. This clasp and wire is movable on the staff, and is adjusted to any part of it by means of the thumb-screw B. There should be 6 or 7 of these wires thus fixed to the staff. The lower wire C. fig 3. when the staff is in use, is made to extend from the staff to the body of the tree. By this means the staff is kept at the same distance from the tree as it is changed from one side to the other. Now pass a string or small pliant wire through the eyes of all the cross pieces, (except the bottom one,) and move the wires to the right and left, up and down, as the size of the tree may require, and screw them to their places. In this way the string is made to form a curve as seen in the figures D. E. F. G. H. The surplus string may be wound round a pin near the top of the staff. Having determined on the shape of the curve or outline of the tree as above, plant the staff by the side of the tree, and extend the bottom wire so as to touch the body of the tree; cut off the branches where the string crosses them, and carry your staff around as the trimming proceeds, always keeping the staff at the same distance from the body of the tree by the wire C.

coming in contact with it. Evergreens, hedges, &c., may be trimmed with the aid of this instrument to any shape, and with great uniformity.

PERPETUAL STRAWBERRIES.

BY W. R. PRINCE, FLUSHING, L. I., N. Y.

Under this head a writer in one of your numbers makes this statement:—"We all know how Mr. Knight's experiments in hybridizing the kinds already supposed to be of European origin, with kinds of American birth, gave to the Horticultural world a race of fruit from which all we now prize have been obtained." Now, in point of fact, we just know no such thing, but we do know the precise contrary to have been the truth. In the first place, there has never been a hybrid produced between any European and American species, and there never will be, this resulting from a natural sexual aversion. Secondly, of the seedlings produced by Mr. Knight, I received the best nine varieties from the London Society, and tested them fully, and rejected the whole; and, but five were deemed worthy of insertion in the Catalogue of the London Horticultural Society, (Edition of 1826), and not even one was thought worthy of retention in their third Edition (1842). And at the present day there does not exist a solitary instance where either an original or a seedling from his varieties has been perpetuated.

[Though thankful for the facts, we do not quite approve Mr. P.'s style of offering them. When we find writers assert that things "never can be," we are reminded of Robert Dale Owen's argument, which, as it was advanced in defence of a favorite hobby of Mr. Prince's, he will certainly not object to, viz., "that when any thing can be proved to exist, it must certainly be possible."

So far as we know, we never heard the facts alluded to (page 40 of our last volume) questioned; and if Mr. Prince is not mistaken in some of his points, his communication furnishes materials for a new chapter in Strawberry history.

We never received the other articles Mr. Prince alludes to in his private note.—Ed.]

CONSERVATORY AT THE PRESIDENT'S HOUSE.

BY D., WASHINGTON, D. C.

Mr. Editor:—In one sense I was glad to read your correspondents remarks on this conservatory. He remarks that "they are a disgrace either to him (Mr. Watt), or to the nation." I fully concur in this, by applying it to the latter part of the sentence. I was, I say, glad, because I concluded Mr. Watt would have an excellent opportunity of clearing his skirts of any responsibility, in what I know to be "a disgrace to the nation." I volunteer to say for Mr. Watt, that a harder working, more attentive gardener does not

exist, and one well qualified for the position he fills. I say this for him because I think his modesty has not allowed him to say the half of himself that he merits, and because I know that he has not given you a detail of half the difficulties he has to encounter. Every thing connected with gardening is grudgingly granted by our matter of fact Congressmen, and it takes as much scheming, I had almost said lobbying, to get an appropriation for these purposes, as is required to engineer through a Pacific Railroad. The Conservatory itself, by whomsoever designed, is "a disgrace to the nation," and all who know the circumstances, will not wonder at your correspondents surprise at the bad plants it could not but contain. I write this without the knowledge of Mr. Watt, simply because I think he has not done himself justice. I know his difficulties, and admire the tolerable success which, notwithstanding, attends him, and besides I am desirous of seeing the blame attached where it properly belongs, on the shoulders of "the nation"—or those who are said to represent it.

[The above from the pen of one of our distinguished Washington amateurs, we readily insert. Our correspondent was a stranger in Washington, and stated only what he saw, and what others have seen, and like him wondered where the responsibility belonged. This our present correspondent fixes, and this good will arise that whoever may call and see the "disgrace," will at any rate know what to blame for it.—ED.]

THE WORM ON THE GRAPE.

BY DR. GEO. PEPPER NORRIS, WILMINGTON, DEL.

Permit me to occupy a few lines of your valuable space for the purpose of calling attention to a pest which has made its appearance, I believe, for the first time, and whose ravages if not arrested bid fair to destroy all our hopes of native Grapes. During the first week in June my attention was directed by my gardener to a small worm that was appearing on the grape leaves. By vigorous application of the syringe and tobacco water, we succeeded in dispelling the intruders, and I thought no more of the matter until one of my neighbors mentioned that his vines were covered with worms. I found them identical with those which I had driven off. I now find that the vines throughout the section in the neighborhood of Jennersville and Westchester, almost entirely devastated. On the road between Wilmington and Westchester I examined several vines, and everywhere found the worm.

How much further the devastation has extended I have not at this writing ascertained, but fear the evil may be wide-spread, and embrace the earliest moment of directing vine growers to examine and clear

their vines. The worm is about half an inch in length, and of a black color when first appearing, but changing with his growth, and becoming of a coppery hue. His favorite nest is on the outside of the leaf; the succulent portion of which he consumes, leaving the fibres, and presenting the appearance of a gauzy web. The leaves are thus effectually destroyed, and the new foliage under the hot sun of this period wilts up, and with the bunches drop off. The unusual amount of wet may have had something to do with the appearance of this worm. With all our vigilance, I fear the insects are gaining a march on us. Not a plum tree here is unstung; and now if this formidable enemy destroys the foliage of our grapes just when we were preparing to decide on many of the new natives, it will have the effect of driving many, myself among the number, to glass-roofed sheds for grapes, plums, &c.

[This is the larvæ of the *Halitica chalybæa*, before described. The beetle appears about the time the buds of the grape begin to swell. Their numerous appearance this year is very surprising. On a small scale the larvæ may be readily destroyed by water heated to 130° or more, and it might "pay" better to do it on a large scale, than go to the expense of glass-houses.—ED.]

CHERRIES ON THE PLUM.

BY W. ADAIR, DETROIT, MICH.

In the garden of Mr. Joseph Jelsch, an enthusiastic amateur pomologist of this city, may be seen a Cherry grafted on the Plum. He cannot tell the varieties of either stock or scion, but says it is a large blue Plum, and the Cherry appears to me like the Black Tartarian. The scion is rather the most rapid grower, still there is but little difference. The tree has been grafted about ten years, bears regularly and well. But little difficulty, apparently, has been experienced in securing a union between the two, as the tree is forked at the top, and both limbs have been worked, and but little difference in their size.

The fact suggests whether the Peach may not be worked on the Cherry? If this could be effected, we might expect to get trees that would be exempt from the attacks of the borer, which is not always the case even with the Plum.

I tried a few buds on the Mahaleb stock last season, which appeared to take well; but as the winter destroyed most all that were worked on the Peach, of course those on the Cherry met no better fate.

It is rather remarkable, that while the winter has been so severe on the Peach trees that many of them with us are killed outright, and all more or less injured, those that have escaped and are large enough to bear, are loaded with fruit.

Two small trees of Downing's Everbearing Mul-

berry that grew well last season, are killed root and branch.

HORTICULTURAL CONSERVATISM—CROCKING.

BY H., NEW YORK.

Mr. Editor:—I hardly expected when I sent you the paper in which this matter was referred to, that it would pass among your thirty thousand readers without some of its assertions being questioned. It is thus where the great utility of a horticultural journal lies, in giving us a medium for exchanging our ideas in matters where personal discussion would be impossible; and also prompting the less experienced to experiment on the matters under discussion.

Fortunately this matter is very easy to get at. It is very simple for any one having a greenhouse to try the growing of a few dozen of plants of the same kind, against a corresponding number—the one lot with, the other without crocks—and note the result. If the experiment be fairly gone into, without prejudice, there is no doubt of the result, if both lots grow alike the “crocking” for the future will be dispensed with by any man having ordinary common sense, as a useless waste of labor.

I. W. C., seems to have very fixed notions in this matter, his experience evidently has only been from one side of the question; it is very doubtful if he ever grew a plant unless it had been “crocked” or “drained;” if such is a fact, his opinions are not of such weight as if he had had experience in both modes, and been able to give us the “disadvantages” of non-crocking in a more lucid manner than he has done. The only argument he attempts in favor of crocking is, that it prevents the roots from getting outside the pot. Does it? It certainly does not if drained with charcoal, as we all know that roots will strike through charcoal as quick as through the soil.

For the information of your correspondent, I will state that all my plants are grown on shelves of wood overlaid with about an inch of saw-dust, sand or sifted ashes, whichever is most convenient; and as a consequence the roots come through the bottom of the pot, but we are not quite slovens enough to leave them undisturbed. The plants are required to be staked, turned, and thinned every few weeks, which effectually prevents them from getting their roots outside to any extent, as to injure the plant.

I. W. C. specifies Fuchsias as one of the plants wherein he thinks crocking indispensable.

I wish in some of his sojourns from the rural district of Westerly, he would take time to make a visit to the establishment of one of my neighbors here, who makes the growing of Fuchsias for the New York market one of his specialties. He has this season grown, and already nearly disposed of ten thousand

Fuchsias. They are grown in five inch pots, (of pyramidal form,) averaging two feet in height, by about twelve inches at the base—complete specimens of health and beauty, covered with a perfect shower of buds and blossoms, and in the whole of that number, Mr. Editor, not a crock nor substitute therefor was used. Had it been desirable or profitable so to do, each plant could just as easily been grown six or eight feet with corresponding width, and that too without the “indispensable” crock.

For the better understanding of the position we take in this matter, I will again recapitulate.

First, that the ordinary method of placing a single piece of potsherd in the bottom of the pot does not drain it, but simply robs the plant of the amount of soil it displaces—some consideration in a two inch pot—then it becomes “worse than useless.”

Second, that draining, even when properly done by charcoal, or other similar modes, adds nothing to the health or growth of the plant; and that all the soft wooded plants commonly grown by florists, will do equally well without it.

These are simply assertions, Mr. Editor, not arguments, and of course carry no more weight than similar assertions to the contrary; all that I advance as argument in favor of them, is the large and successful practice of my own and similar establishments conducted on this plan. There may be some advantage in filling a pot half full of drainage, if that pot is too large for the plant, (which we too often see,) but if the pot is properly adapted to the size and condition of the plant, then I again hazard the assertion that all this practice of by-gone years has been labor lost.

GREENHOUSE PLANTS.

BY ADAM GRAHAM, PHILADELPHIA.

T. M. H. asks for advice in the selection and management of Greenhouse plants. I recommend the following list, and course of treatment for his adoption, which, I think will meet his wants and those of others similarly circumstanced,—presuming at the same time that the house which he proposes to build will be constructed with a due regard for the object in view, viz.: the successful cultivation of plants, in which an abundance of light and proximity of the plants to the glass, are of first importance.

Horticultural prints frequently recommend copious waterings for many varieties of pot plants, which, when wrongly interpreted by amateurs who have not had the experience sufficient to guide them, is often productive of injury. Caution against over-watering is one of the main points of success in plant growing. Water cannot be given to any greenhouse plant without injury, unless that previously in the soil be first absorbed. No one thinks of drinking unless they are

thirsty; and water given to plants which do not require it, will remain stagnant in the pot, souring the soil, and destroying the roots and the health of the plant. On the other hand, you may injure a plant by neglecting to water it at the proper time; but the proportion so affected is comparatively small—but large enough, nevertheless, to give a liberal range to the taste in the making of a choice collection.

I will now name a few Greenhouse plants, which have my favor as such, beginning with

ABUTILON, a genus which thrives well in soil composed of two parts loam to one of manure and sand—varieties, *striatum* and *insignis*.

ACACIA. Plants with showy yellow flowers, blooming from the end of January to the beginning of April, soil should be composed of two parts peat, two of loam, one of well-rotted manure, and one of sand—*A. dealbata*, *floribunda*, *graveolens*, *undulata*, *undulatifolia*, *pubescens*, *platyphylla*, *eriocarpa*, *pulchella*, and others, are good.

AMARYLLIS bulbosus. These do best with hot-house cultivation. They may be grown in a greenhouse, however. They should be allowed to go to rest after flowering, by gradually withholding the supply of water. When the leaves decay, place their pots on their sides, beneath the stage, so that drip cannot effect them. After resting three or four months, they will begin to show signs of growth, when they should have the old soil shaken away from the roots, and repotted in fresh soil, composed of two parts loam, one of leaf mould, and one of manure and sand.

ARDISIA. The berries of this tribe, which hang in graceful clusters from the side shoots of the plant, are its chief attraction. Pot in loamy soil—*A. crenulata* and *lutea*.

AGERATUM odoratum, a blue flowering plant. Pot in rich soil.

AZALEAS. One of the most useful and beautiful tribes of Greenhouse plants, delighting in soil principally composed of peat,—say two of peat to one of loam and sand; contrary to the theory generally laid down for their cultivation, they will be found to do much better with a tolerable good exposure to the sun, than when shaded. The flowers are larger than when shade grown. When they are in flower they remain in much longer by being shaded. Red Spider and thrip require watching, as they are very destructive,—fumigating with tobacco is the best remedy, though with caution at the growing season: a little and often should be the motto. Syringing and sponging the leaves is good against Mealy-bug and Red Spider. Any of the following named varieties may be ranked as first class:—Admiration, *amæna*, Beauty of Europe, Bride, *crispiflora*, Coronet, Criterion, Duke of Wellington, Eulalie Van Geert, *exquisita*, Glory of Sunning Hill, Lateritia, *superba*, Louis Na-

poleon, Maitlandia, Murrayana, *Narcissiflora*, Optima, Pride of Dorking, Prince Albert, *rubra plena*, Symmetry, *variegata*, Vesta, *vittata*, *punctata*, *roses*.

BURCHELLIA CAPENSIS, pot in one-half loam, one-fourth leaf mould, and one-fourth sand and manure.

CALCEOLARIA. A beautiful tribe of plants of innumerable varieties, raised from seeds and cuttings. Pot in rich sandy loam; they require to be pinched occasionally while growing.

CASSIA, *corymbosa* and *occidentalis*; yellow colored, winter-blooming plants; grow in loamy soil.

CALLA ETHIOPICA—A strong growing, winter-blooming plant; should be dried off in the beginning of Summer, and after resting three or four months, should be shaken out of the old soil, and repotted in strong rich loam.

CAMELLIA JAPONICA. This family ranks, by common consent, above all other greenhouse plants. Its glossy, dark green foliage, and beautiful wax-like flowers, win the admiration of all. They are likewise much easier of cultivation, than the many sickly specimens often met with in our gardening establishments, would lead us to believe. Pot them in fibry peat and loam, in the proportions of two of the former to one of the latter, with a little sand and leaf mould; syringe them once a day, with the exception of the winter season, when they are in flower. Apply fire-heat only when necessary to exclude frost. Changes in temperature, cause less or more of the flower-buds to drop, of which your correspondent complains. Keep them close and moist while they are in a growing condition, gradually giving more air as their growths are completed. If the plants are strong and robust, it will be necessary to water sparingly to cause them to set their buds; after they have done this, take particular care that none suffer from drought, as it will cause their buds to drop. The following is a list of the best varieties:—*alba plena*, Alexina, A. J. Downing, Amabile, Bealliana, Binneyii, *candidissima*, Duchess of Orleans, Dunlop's White, *imbricata*, Feastii, *fimbriata*, Fordii, Henri Favre, *imbricata*, Hume's Blush, Jeffersonii, Joan of Arc, Lowii, Jenny Lind, Miniata, Mrs. Abby Wilder, Mrs. Cope, Reine des Fleurs, Sacco de Nova, Sarah Frost, Standard, Town's Blush.

CHOROZEMA varium, should have partially shaded situation; grow in soil composed of equal parts peat and loam.

CINERARIA. Showy class of plants, flowering in the latter part of Winter and early Spring. Their varieties are very numerous, as they are largely grown from seeds. Flourish in rich soil.

CORREA. One of the finest of greenhouse plants, but generally considered of difficult cultivation; grows in peaty soil,—Grevillii, Harrisii, *magnifica* and *speciosa*.

DAPHNE is valued for the fragrance of its bloom, combined with the variegated foliage of some varieties. Pot in loamy soil and water sparingly—Prince Albert, *indica* and *Japonica*.

EPACRIS. An invaluable tribe of plants, flowering throughout the Winter. They thrive well in fibry soil, composed of two parts peat to one of loam and sand; require pinching occasionally while growing. They do not like much exposure to the sun, which must be particularly guarded against during the summer season—*coruscans*, *grandiflora*, *paludosa* and *purpurescens*.

ERANTHEMUM. Plants of easy growth; pot in loamy soil—*coccineum*, *pulchellum* and *scabrum*.

ERIOSTEMON. Plants with pretty rose-colored flowers; soil half peat and loam.

EUPATORIUM. Winter-flowering, and of easy culture. Pot in rich soil—*elegans*.

FUCHSIA—require rich loamy soil; leaf mould may also be added with advantage. Whilst they glory in a full exposure to the sun in Winter, they cannot face the strong sun rays of summer, and therefore should be placed in a shady position at this season of the year. Being deciduous the plants lose their leaves towards the fall. Little if any water should be given them until it is desired to start them into growth, which is generally about the latter part of October; at this time the branches should be cut back to within two or three eyes of the main stem. Frequent syringings are also requisite to keep down the Red Spider. The following are few of the best varieties:—*Carolina*, *Duchess of Lancaster*, *Emperor Napoleon*, *Fairest of the fair*, *Glory*, *Herrii*, *Mrs. Simpson*, *Prince Albert*, *Prince Arthur*, *Princess Alice*, *Queen of the Seas*, *Rose of Castile*, *Purple Perfection*, *Pet*, *Voltigeurs*, *Venus de Medici*, *British Sailor*, *Catharine Hayes*, *Governor General*, *Guiding Star*.

GARDENIA—rich soil—*camelliaeflora* and *multiflora*.

HABROTHAMNUS—*elegans*, and the *Heliotrope*—require similar soil to the *Gardenia*, and the warmest part of the greenhouse.

INGA *pulcherrima*, *Jasminum grandiflora*, and *revolutum*; *Justicia*, *carnea* and *speciosa*; all require rich loamy soil.

KENNEDYIA *expansa*, *Lindleyana*, *ovata* and *racemosa*, soil equal part peat and loam. Give them frequent syringings.

LACHENALIA *pendula*, *quadricolor* and *speciosum*, require rich loamy soil. Flower early in Spring.

MAHERNIA—*odorata* and *clata*.

METROSIDEROS—*floribunda* and *semperflorens*.

Grow in fibry soil, composed of about equal parts peat and loam.

OXALIS. Grow the following varieties in any rich

soil:—*Bowii*, *cernua*, *floribunda*, *grandiflora*, *lupiniflora*, *multiflora* and *purpurea*.

PELARGONIUM. Many varieties easily grown in rich soil. Should be smoked frequently to destroy the Green Fly, which attacks them persistently. The varieties named below hold a high place in public favor—*Advancer*, *Ajax*, *Bridegroom*, *Cyrus Superb*, *Hebe*, *Jenny Lind*, *Lord Damier*, *Mazeppa Superb*, *Margaret*, *Vandee*, *Orion*, *Rosy Circle*, *Village Maid*. After flowering in the Spring, ripen the wood well by giving plenty of air, and water sparingly; when this has been accomplished, which will generally be about the end of June, cut them back to within two or three eyes of the old wood, and gives scarcely any water until they again push. If an abundance of flowers is wanted, more than strong-wood, give little manure-water until the flower-buds are set; after they have done this, it may be frequently given, as it causes the flowers to become much larger.

PRIMULA. Plants of considerable merit for winter-blooming, raised from the seed,—the double and fringed sorts of the white and rose color, are considered the best. Must be watered cautiously, as they immediately damp off when over-watered,—grow well in drained pots, with sandy loam,—broken charcoal may be mixed in with great advantage.

RHODODENDRON. A very handsome class of plants, many varieties of which are hardy. The finer kinds, however, require the protection of the greenhouse. They grow luxuriantly in moisture and shade. They should be frequently syringed or hosed, as they are very liable to the attacks of the thrip. Pot in fibry peat and loam—*album fimbriatum*, *Standishii*, *citatum*.

ROSES. T. M. H. complains that they did not flower with him until late in the season. It is probable that they did not have sufficient heat and exposure to the sun; without the latter they will not flower during the winter, and if too much air is given, (although ventilation is necessary to a certain extent,) it will also keep them behind in their blooming. But the great secret in flowering roses in winter is, in having the plants directly facing the sun, otherwise the bloom will be late. Give them good rich soil. The following are some of the best varieties for winter-flowering:—*Abbé Moillard*, *Agrippina*, *Madame Bosanquet*, *Camelliaeflora*, *Devoniensis*, *Empress Eugenia*, *Goubalt*, *Hermosa*, *Triomphe de Luxembourg*, *Sir Joseph Paxton*, *Louis Philippe*, *Crystal Palace*, *Queen of Lombardy*, *Stromboli* and *Saffrano*.

RAPHIOLEPIS INDICA.

SPARMANNIA AFRICANA.

Both require rich loamy soil, and flower through the greater part of the Winter.

TETRATHECA. A beautiful New Holland plant,—grow in peaty soil—*ericifolia*, *Hugelia* and *verticillata*.

TROPEOLUM. A handsome free-blooming plant of easy cultivation—may be trained up the rafters of the greenhouse.

VIBURNUM TINUS. Plants bearing broad spikes of white flowers during the winter months. Pot in rich loamy soil.

This, Mr. Editor, completes the list, which, incomplete as it may be, may yet be useful.

[Very much obliged.—Ed.]

LAWNS.

BY A. F. G.

In the June number of the *Monthly* you write of Lawns, in which I fully agree, especially where you object to manuring lawns in the winter with stable manure, which introduces weeds and makes the grass coarse, which is contrary to the intents of a lawn.

Grass will get poor and weak from constant mowing, in which case use wood ashes. There is nothing better as a lawn fertilizer. They should be sifted fine to take out small stones and hard substances that might injure the scythe in mowing. Scatter them evenly over the surface, about a half peck or a little more to the square perch. The best time to apply them is in December or January. Choose a damp day, or, what is better, when there is slight fall of snow on the ground, which enables the operator to see that he is putting them on evenly. One dressing will last three years. I have practised this with satisfaction for several years, as also have some of my acquaintances. As to the new idea hinted by K., I must say I do not like it as a general thing. It may do very well where a mowing machine is used; but it would be next to impossible even for an "expert" to mow a lawn properly with the previous crop (though withered it may be) lying on the ground. It would clog the scythe, and the keenest edge would not cut through it. To have a good lawn, it should be mown at least every two weeks, and the grass swept off clean with a moderately stiff broom, or raked with a grass rake, (daisy rake, the English call them). The roller should be used a day or two previous to each mowing.

As we before stated, with the machine at Wodenche, the practice of leaving the grass on the lawn does do well. Our correspondent's belief that it may do well is therefore "probable." We like his unwillingness to be convinced. There is no use in abandoning an old idea, until the newer one has been turned inside out and examined carefully. However, the mowings clogging the scythe, is more imaginary than real, when the mowing machine is used; and as it has to be, every few days. The "mowings" are invisible in—we had almost said in a few moments—but in a very short time, and they dry up and

crumble to powder, before we have time to learn more than that they are there.

"Mowing machines and no clearing up," depend upon it, will yet be the rule. All honor to the genius, whoever he may be, who first hit on the idea.—Ed.]

A CHEAP DIBBLE.

BY J. M. SMITH.

I send you a sketch of a very useful implement, which I made by "saving the pieces" of a broken plow handle. It is the best dibble I think I ever used. It is made by taking a broken plow handle, sharpening the lower end, and in place of the "round" of the handle put in a block (fig. 2.) to rest the foot upon—when you have the finished article (fig. 1.)

fig 1



fig 2



In setting some stakes for Dahlia supports, etc., I found it an excellent tool. With the foot you can sink it into the ground any desired depth.—For any other purpose where a dibble is used, it is unsurpassed.

I am experimenting in striking cuttings of various plants upon a method I never heard of before, and if I succeed will give you my experience.

[Just in time with the last offer. Pray let us have it.—Ed.]

FRUITS OF THE HOURS OF IDLENESS.

BY IDA, COLD SPRING HARBOR, N. Y.

Although I have not made it a practice to employ my pen in the service of periodicals, yet from a conviction that it is the duty of every person to contribute to the general information of man as often as the opportunity presents itself; and from a belief, that every person of ordinary talents and acquirements, by perseverance and reflection, may accumulate a vast amount of information upon important points, which if not new to all, may be to the greater portion of society; from these considerations I say, I have determined to employ my leisure moments in writing down for the columns of the *Monthly*, such reflections as from time to time may arise in my mind on topics which are important to the general welfare, convenience or innocent diversions of its readers. I hope that the same reasons which have influenced me in this attempt, may be impressed upon the minds of others, and lead them to a like endeavor, which if it should result in no more importance than the enlightenment of their own understanding, would be far

from a waste of time or energy. In the first place then, I would desire to call the attention of the readers of the *Gardener's Monthly* to the important fact of the universal desertion by our young men of their homesteads, and employment of their fathers, for the occupation of the desk or counter, within the dark and unwholesome confines of the city. It seems to argue a very great depreciation of agriculture as an employment, and we fear that this false, but nevertheless popular notion, is in very many cases the cause for that desertion of agriculture to which we have referred. After considering the matter attentively over in my own mind, I have arrived at the conclusion that it must arise from one of the four following reasons, namely: a notion that agriculture is a vulgar employment; secondly, the slowness with which a fortune is attained, and the great amount of labor to be expended in procuring it; thirdly, from the idea that a city life presents more enjoyments than a life passed in the country; or, fourthly, from a depreciation of the agricultural classes on account of the deficiency of information existing among them. In regard to first point then, I would say, that no occupation which is honest in itself, and absolutely necessary to the support of the human race, in a civilized state, can be considered as vulgar by any reasonable being. Every art rises in its honorableness in exact proportion as it becomes necessary in the economy of life; using this, therefore, as a standard by which to measure the importance of every occupation exercised by man, we are necessitated to admit at once, that agriculture should be placed at the head. Or in other words, that among all the arts by which man governs the necessities and conveniences of life, none is so honorable as the profession of the farmer. Were agriculture to be neglected, the decrease of population would be the result, since the necessities of life would be wanting. Were its supply only equal to the demand of those who are engaged in it, every other art must not only cease to progress, but for a period cease to exist; and the neglect of every science and mental improvement must result from any attempt to render ourselves independent of her aid. In no instance do we find an example in the history of nations, of a people having made any considerable progress in the fine arts and high mental culture, who paid not a great degree of attention to the cultivation of the soil. The Egyptians, the Greeks, the Hebrews, the Persians and Romans, all paid more or less attention to agriculture, and held in high esteem its operators. Among the nations of modern times, we might enumerate the Mexicans and the Peruvians, the Chinese and the Japanese. We term them modern because, although of ancient origin, the forms have ceased to exist only at a comparatively late period, while the latter still flourish among the powers of the

earth. On the other hand, the Tartars, the Goths and Huns, the savages of America, the Sandwich Islands, and the wilds of Africa, as they have never paid any attention to the cultivation of the soil, so have they never arisen above the savage, who trusts to his skill on the chase for a scanty and often precarious subsistence, and in whose tracks devastation and famine follow, instead of peace and abundance. What is it, I would ask, that has raised this country to the position which she now occupies among the nations of the earth? We may answer that it has been chiefly owing to agriculture, and the impulse which a free constitution has given it. Until only a few years past, nearly all manufactured articles were imported from European countries; nor has the amount of that import been small. And yet this debt has been liquidated by agriculture alone. Had the settlers of this country been less attentive to the cultivation of the soil than they were, our country would never have arisen to the high state of freedom and national power at which we now behold her. The cultivator is virtually fixed to the soil, and has therefore a paramount interest as well as an invincible energy to defend it from the encroachment of a foreign or a domestic foe. I esteem it a happy event for this country that our forefathers were compelled by individual as well as national circumstances, to obtain the manufactures necessary for the comfort and convenience of life from the mother country. It led them to feel their total reliance upon the soil, and to defend the possession of that soil as a part of their civil liberty, with a bravery which the hireling or the landless citizen seldom feels. It led them when they had arrived at a national existence to see the evil of a longer dependence upon others for manufactured articles; and consequently to make effectual efforts to render themselves entirely independent in this respect. It is true that that independence is not yet accomplished which we desire to see; but it is fast approximating to it. Every exertion of the cultivator of the soil has for its aim, the procurement of those necessities and conveniences which our nature and our happiness require. Manufacture and commerce originally owed and still owe their existence to agriculture. She furnishes, in a great measure, the raw materials for the one, and commodities of exchange and barter for the other. In proportion as these are multiplied, in the same ratio is manufacture benefitted, commerce increased, and the equality in the social and political state of man promoted. The more agriculture produces the more she sells, and the more she buys. The more she produces the greater the abundance of provisions; the greater the number of manufactories, the greater the amount manufactured; and consequently the more reasonable the prices of manufactured articles. The stone of our quarries in a great measure goes

toward the construction of factories and warehouses, for the construction of the raw materials to which agriculture gave virtual existence into wearing materials, or for the storage of these articles when manufactured. The iron of our mines and the timber of our forests are turned into tools for the cultivation of the soil, and into railroads and shipping, and canals, and other vehicles of conveyance for the transport of the raw and the fabricated material to the widely separated markets of the world. It will be seen then, that the greater the amount of agricultural productions, more railroads, ships, canals, manufactories, &c., are necessary for their transport or fabrication into wearing materials; the greater will be the number of mariners and mechanics of every description required; the greater will be the number of trades, and in the same proportion will population increase; hence the more are the services of teachers in schools and seminaries needed; and the more encouragement is held out to scientific investigation; and as a final and grand result, directly or indirectly, of this whole system, which agriculture has raised to so stupendous a height, and still supports without danger of giving way so long as she herself progresses, its whole tendency is toward the increase of information, and the universal diffusion of knowledge. But unless agriculture progresses, this mighty system cannot be sustained by any strength which lies within itself. Should she retrograde, the whole would fall into a mass of ruins.

Every day in the progress of agriculture contributes to the general health of the globe. It is by the efforts of the farmer that forests are laid open to the sun's rays, and the noxious gases and vapours arising from their decomposing vegetable accumulations are removed. It is by his efforts that swamps and marshes are drained, and their malignant influence destroyed: that the climate is ameliorated and rendered uniform; and lastly, that new portions of the globe are settled and civilized, and the savage aborigines compelled by contact with their new neighbors, to substitute a life of virtue and industry for that wild uncultivated state, which if left alone, they would never relinquish.

We see, then, that agriculture is absolutely necessary to maintain the existing state of society; that she is, in fact, the foundation-stone upon which civilization rests, and that the moment agriculture begins to be universally neglected, will be the epoch at which the human race begins to descend to that benighted state from which man originally sprung.

Chemists may speculate upon the period when man, by the aid of science, shall construct those necessities of life for which he is now dependent on the vegetable kingdom. But not in our day will that period arrive, and probably never. Yet, if it should, it will only be when the earth has become too densely pop-

ulated to afford sustenance to all its inhabitants, by the means which nature now employs for preparing it. But should the earth be inhabited by man tens of thousands of years, she will still pour forth from her bosom a supply for all his wants. The resources of nature are inexhaustible, as her domain is infinite. The gradual changing of the axis of the earth, elevates the icy pole beneath the smile of a more congenial sun. The temperate zone glows with the rank verdure of the tropical regions, and the frigid zone with the cereal grains and the golden harvest. The vegetable kingdom has been the chief resource of man and still must be. Yet even this source becomes inadequate when nature is not assisted by man. The supreme being foresaw the evils which would result from a too lavish distribution of his gifts; and while he holds out to us an inexhaustible source of all things that are necessary, he ordains that man shall only become possessed of them by the efforts of his own mental and physical powers. Had it been otherwise, had the earth produced spontaneously such an abundance of fruit, all the year round, as to relieve man of the necessity of sowing and harvesting, there would have been little or no incitement to lead us on to the acquisition of knowledge, or to a change in our state of life. When but to desire is to have the senses gratified, man remains contented with his existing circumstances, and has no desire to exchange them for any other combination.

How much is it the interest, therefore, of every individual of society, whatever may be his profession or trade in life, to do all in his power to further the interests of agriculture? And can we longer consider the employment of the husbandman as vulgar, when we have seen how important it is to society? If the farmer's hands are discolored while he is at work with the soil, it is no dishonor to him. Why should we feel a repulsion to touch the elements that compose the soil, when every day of our lives we derive a sensation of pleasure and satisfaction from the consumption of the same elements.

As for us, we think there is something noble about the occupation of the rustic countryman, which should lead all classes of men to consider it in a different light from any other; to feel a peculiar interest in it, as the common child of all, and to embrace every opportunity of forwarding the views of agriculture, which may be presented.

Finally, we would say to the young men, do not despise that employment which nature intended all men should exercise for their subsistence, and which Cincinnatus and Cato, Washington and Webster, ranked among the most honorable of professions.

In another paper we will treat the other points proposed in the beginning of the present article.

HOT WATER FOR INSECTS.

BY P. ARNOLD, RED BANK, N. J.

Your mode of cleaning insects from plants and flowers by water heated to 130°, is an excellent one. I tried it on rose bushes that were full of rose Aphis and other kinds of insects, and I found it cleaned them perfectly. I poured it on the bushes with a watering-pot. I have tried tobacco, sulphur, and many other things, but have not found any thing as good as the above remedy.

WINTER BLOOMING PINES.

(Translated from the German for the Gardener's Monthly.)

BY A. F.

This beautiful class of plants, which can be made to bloom in winter, is not half as well known or cultivated as they deserve, both on account of their agreeable odor and easy cultivation. They not only produce a charming room ornament, but they furnish a great many beautiful bouquets, remaining a long while in bloom, and the flowers are unaltered for a considerable time after being cut: besides they bloom at a time of year when flowers are somewhat scarce.

With proper attention these remountants bloom in pots from October till May, and in fact longer when shifted in April or beginning of May; if there is a large collection of them, the flowers can be cut off at pleasure; for this will be required sooner or later to compel them to throw out new flower buds from the lower stems. There are at present an endless variety of markings and colors, and the most pleasing diversity of shades and form.

The best time to begin is in the month of April, by cuttings or layers. About the first of October I take my cuttings, choosing for them the finest and strongest shoots; I cut them in the ordinary way through a joint, strip off the upper leaf, and stick it in the split in the stalk to hold the ends apart, lay the cuttings around the edge of a common garden pot of 4—5 in. diameter, fill it with earth and pack it rather firmly. The earth, which I use, consists of equal parts of leaf mould, compost and sand. The pots are then transferred to a cold frame, always kept shaded when the sun shines strongly and watered as often as necessary. Here they throw out roots slowly and by the first of March are well rooted. They are then potted in three inch pots, with fresh mellow garden mould mixed with sand and rotted manure, when they are again placed in a cold frame, protected for several days from the sun. In eight or ten days they should be syringed, so that the plants may take better hold on the new soil and start roots; this done, air can be freely given.

Early in April the pots will be filled with roots.—In this state I snip off each middle shoot, whereby they are compelled to spread out strongly. As soon

as the plants have shoots an inch long, they should be placed in six inch pots, but not transplanted, and the clump of roots packed firmly around with a mixture of three parts of good garden mould, and one part of equal parts of sand and well rotted manure.—

I shall here take occasion to remark, that in my opinion the reason why many of these beautiful plants do not bloom perfectly is, their growth is not checked at the proper time, or sufficient time is not given for their requisite development till they are shifted into two large pots, eight, ten, and as I have sometimes seen twelve, inch pots. It is a great error to use such pots. When all the plants are potted, stakes should be inserted, to which the shoots can be fastened when they grow tall; at the same time all the shoots broken out except four, which number according to my experience is more advantageous than a larger one. The pots are now sunk to the brim in the ground, the plants bound and watered as required. About the first of September buds begin to appear when they are taken out of the ground and watered twice a week or so, with liquid manure.—When mildew shows itself, which sometimes happens in the fall, I sprinkle them with sulphur, and should green fly attack them (which has not happened to mine) it will be necessary to dip the young shoots in an infusion of tobacco. The pots are then washed off and allowed to stand for a week or ten days in any convenient place where they are slightly protected.

The earliest varieties begin to bloom towards the fall, when they are kept in a greenhouse the temperature of which is maintained, at night, from November till the end of February at 45 deg. Fahr. and in day time from 50 to 55 deg. they will grow very well all the time and repay their culture with luxuriant bloom.

I take then, as before in October, cuttings of my plants, after they have bloomed, which will have taken place by the end of April or beginning of May. However I turn the old ones into the garden border, where they begin to bloom again, and give me a second supply of pretty and delightfully odoriferous flowers, which are prized at all seasons.

HOUSEHOLD GRACES.

BY JOSEPH ANRAM.

The genius of a nation is not made up by virtues and vices alone, but also by propensities, habits, and manners. A happy blending of characteristics, all different from each other; and, in fine, in themselves, is required to raise that nation in the eyes of God and men.

Valor, proficiency in the arts, trade, education, wealth, patriotism, do not indicate the standing of a people when taken singly; and any nation excelling in any of them too much, is either still in the confines

back into it. History, ancient and modern, furnishes plenty of illustrations.

It takes, then, many qualities to make a man, and a nation, approach our ideal of civilization; and the softer qualities have as much to do with it as the sterner ones. Virtues and graces, must in our model nation, run hand in hand through its character.

The love of flowers is, no doubt, one of such graces; belonging as it does to that harmonious of things which makes and marks the geniality of a people.

We do not speak of *floriculture* as an art; we rather speak of a feeling and its practical expression. It also is the one in which we in this country are sadly deficient. "Take it altogether," we said the other day to a friend, just home from his travels, "what has struck you most abroad in the gardening line?" He paused a moment, and then replied:—"The sale of *pot plants in Germany*." We were then told that there were there the usual stands in the markets, and at the corners of streets, and the itinerant wheelbarrow gardeners, which we find almost everywhere; but in addition to them, there were in every city, stores, more or less numerous; more or less well-stocked; more or less expensively fitted up; in which pot plants and cut flowers were sold. Such an extensive sale of course rests on the demand of the masses; on the general custom of having a garden for every family,—not exactly in the place where gardens 'ought to grow,'—but pocket editions of gardens, in the shape of plants blooming gloriously inside of the windows during winter, and outside of them, on little stages, in summer. During the fine season it occurs sometimes that a pot gets dropped or blown over on somebody's hat or head, which suffers accordingly; but such accidents are not half as frequent as camphine ones with us.

"The poorer the people," so my friend went on, "the more they seem to cling to their plants, and perchance, their Canary bird. It looks like the purest enjoyment of the soul, left her in and against adversity. I did not fail to notice that Ericas, Tree Ferns, Begonias, etc., were of the aristocracy, whilst Geraniums, Callas, Hydrangea hortensis, Aucuba japonica, and others, dwelled with the plebeians. Still I often saw a fine Camellia or an Orange Tree in the window of the poorest—no doubt one of the poor woman's treasures.

Mignonette and Myrtle were, as they ought to be, with high and low, associating with all the grades and tempers of society. Pots too, like their owners, dress there more or less expensively, that is, they are put into china-ware, porcelain, gilt or painted Fayence, etc., which serve, just like dress, to hide—the clay. Plants once drawn into the family-home get petted by the ladies. It is they who provide for them stands of all shapes and materials, hang them up in baskets and vases; now decorate the iron balcony

into a living one, where the beholder fain looks for the iron, then again trail ivy on an arch between the windows and make a bower of it."

"And what sort of a people are the Germans at home?" I naturally inquired.

"A pleasant sort," he said, "satisfied with little and industrious, nevertheless. Drawing the enjoyments of life from rational sources, especially from the feelings. Mellow in intercourse, with a turn for thinking, and a profound veneration of art; and, you see," my friend concluded, "they are excellent customers for gardeners."

As my friend spoke, two ideas started parallel to each other. One was somewhat in this way, "wish we had the same chance here;" the other, "wonder if rowdyism cannot be sunk in pot plants?" Hard on the heels of these two, came the third, "what can be done for it?" And this is the drift of this article.

How can we raise the love of flowers in the masses? It needs no demonstration what benefits all the world—and florists in particular—would derive from it. If we are not out of the baby-hood of a nation,—as our orators tell us time and again—then we are at least, as individuals, full grown men and women. And if, as a nation, we can cultivate the sterner virtues only, which we are told belong to national infancy, then at least, as individual beings, and as members of a "home," we might cultivate in us and around us, more of the *graces* of civilization.

Will our Horticultural Societies lead the way?

[We think, ourselves, that many of our Horticultural Societies might do more than they do to encourage gardening amongst the masses. At present they reach only the wealthier portion of the community, and commercial gardeners.—Ed.]

BEST SIZED GLASS TO RESIST HAIL-STONES.—Our best Philadelphia Gardeners have been experimenting on the best size and quality of glass for greenhouses to resist hail-stones, and have pretty much settled down to the opinion that thin "second common" glass of 10 x 12 or 12 x 15 is the best, with a due regard to first cost. By its elasticity under a sharp blow it escapes, when smaller size and resisting glass gets broken. But then our hail-stones seldom exceed one inch in diameter. What will our Kansas friends do according to the following:—

"A fearful hail-storm is said to have visited the town of Leroy, Kansas territory, on the 13th of April. The ice-storm lasted about fifteen minutes, during which time the ground was covered with ice balls from the size of a hen's egg to a common sized table-bowl. Some balls were picked up that weighed ten ounces and another one pound and a half!"

The Gardener's Monthly.

PHILADELPHIA, AUGUST 1, 1860.

All Communications for the Editor should be addressed—
"THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

NOTICE TO CORRESPONDENTS.

In consequence of the heavy increase in the circulation of the *Monthly*, and the consequent necessity of going to press earlier in order to issue the Magazine punctually to all our subscribers by the 1st of each month, it is desirable that communications requiring immediate attention, should reach the Editor before the 10th of each month.

THE NEW IMPROVEMENTS IN PROPAGATING.

We are pleased to find that there has really been much more attention given to the discovery of the proper theory of propagation during the two past years than we had supposed, when we received Mr. Watson's article in our last. On looking about us, and prying into the several corners of such of our friends who devote themselves to mysterious modes of increasing their stock, we found one gentleman who had been in successful practice of callousing cuttings in a way similar to that which we described in our last, for some time back. It differed from our plan in this, that though a similar jar to the one we use is employed, wherein to callous the cuttings, it is buried up entirely under sand. In this glass the cuttings callous beautifully. Though our friend's success has been very encouraging, he will not allow us to do more than refer to it as corroborative to our own experience. He promises us that when he shall have completed some other connected experiments, he will give the readers of the *Monthly* the whole benefit of them.

But we commenced this article with another object. In looking over the store of a pottery show-room in Philadelphia, our eye caught a non-descript utensil, to which the "what is it?" was particularly appropriate. The annexed is a cut.

Fig. 1.



Fig. 2.



The presiding genius of the establishment could not enlighten us, and we consulted our own oracle as to its uses, but it was mute. So we set our own reporter on the track; and by the use of that pecu-

liar instinct which has never been described in any work on Natural History that we know of; but which nevertheless these useful and never-to-be compensated gentlemen of the press are so remarkable for possessing; he discovered one of them in the full tide of successful operation on the grounds of our ingenious fellow townsman, Robert Cornelius, Esq.—Stuck around in the notches were green cuttings of Grapes, Oaks, and other usually unstrickable things, all seeming so completely under the will of the operator, that instead of the unwilling look most cuttings presented, these seemed to vie with each other as to which should root the quickest and the best.—To show how they were rooted, Mr. C. tore them out as ruthlessly as we would a tuft of Couch Grass, and in the same manner "hammered" the clotted matt of fibers against the wall, to shake out the sand, with the remark that "they would do," and with a push of his fist thrust them into a bed of damp sand close by. And these, too, were green shoots of Delaware and Rebecca Grapes, good reader! to whom these grapes have heretofore proved very sour from their costliness. Your time is come to rejoice. Grape plants will not henceforth be worth their weight in gold, for any great period after this discovery. Every poor man may soon not only sit under his own vine and fig tree, but a Delaware or or diamond vine at that.

But to the cutting-pan itself. Fig. 1 represents it correctly seen from the outside. Fig. 2 is a vertical section, showing the interior. It is about ten inches in diameter, which is about the size best for general use. It is made in two pieces—the top part A being separate and independent from B—and has no bottom but rests, as shown, on the cog-like points, made by the notches in the piece below. The projecting rim on the piece is for convenience in handling. The holes at the bottom are for the escape of water.

The invention of this pot is due to two observations. As we have stated in former numbers some of the difficulties of propagation arise not from water in itself, or from want of drainage to carry it off, but from the want of a medium that shall be unchanging in its moisture and temperature. Cuttings will often root better in water itself than in a well drained soil. By the usual mode of striking the surface of the sand will get dry, and must have water, and the changing circumstances cannot be avoided. This is corrected in the present invention by the cuttings being inserted in the notches in the pan B, the top pan is then placed on and filled with sand. So large a body over the cuttings evidently must keep them constantly and regularly moist in the most perfect manner.

The other observation was that no matter what may be the cause of the sap's ascent, the principle of gravitation had to be overcome by the vital force. As

this force is always much weakened in a cutting, we should aid it by placing the cutting in a horizontal position, along which the sap can more easily flow than when set upright. This is accomplished in the manner indicated in the cut.

The pan has been employed with the most complete success, and the theory deduced from the result shows the practice to be founded on correct views of propagating science, and goes a long way towards making a very common-place idea out of what has hitherto been one of the great mysteries of the gardener's art.

TO NURSERYMEN.

As the planting season is again at hand, we take the liberty of suggesting to Nurserymen the importance of forwarding their advertisements in good season.

We are proud of the fact, that this periodical has attained a circulation which renders an advertisement in its columns of the greatest advantage to our patrons. Its circulation is not only great in numbers, but also very *widely extended*. In addition to its immense subscription list in the Northern, Eastern, Middle and Southern States, it has also a very extensive circulation in Canada, California, New Mexico, Texas, Oregon, Kansas, Nebraska, and, indeed, in every section where there are any lovers of horticulture.

The importance of sustaining a cheap and efficient advertising medium, must be apparent to every one.

In preparing advertisements care should be taken to have the names of varieties, and the prices very plainly written, avoiding as much as possible erasures and alterations, and also to be careful to specify whether the price named is for a single plant, a dozen, a hundred or a thousand.

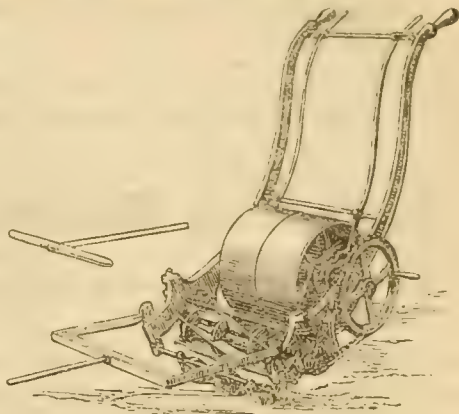
We would also recommend, as a most effective mode of advertising, *short* advertisements with striking headings, of any single variety that the nurseryman has a large stock of, and is anxious to sell. This often strikes the eye when a more *general* advertisement is passed by unnoticed.

GREAT IMPROVEMENT IN LAWN MOWING MACHINES.

Notwithstanding all that has been done towards the introduction of improved lawn mowers, they are not often seen in use,—principally because the larger ones only do the work well, and these can only be employed on lawns of some extent.—The smaller mowers, though they cut the grass easily, leave it so scored that one is too strongly reminded of scarred beauty to be over-well pleased.

Our friend Mr. J. J. Smith, the late distinguished editor of the *Horticulturist*, who has recently been making a horticultural tour in the Eastern States, inform us that he has recently seen one of Green's

New Patent Noiseless Mowers in operation, and that it entirely removes all the objections to the older kinds. The annexed engraving represents it:—



Mr. Smith describes the wheels in the front as a very ingenious arrangement, by which the work is done in a perfectly satisfactory manner.

This machine was imported in the Spring from England, where they are furnished at prices ranging between \$30 and \$100. The former takes 14 inch breadths, and the latter 26 at a time. The one noticed, we believe, cost about \$50, and took in about 2 feet breadths.

The abolition of the old Scythe institution, is a "consummation devoutly to be wished;" and we are not without hope of now soon witnessing so desirable an end.

AMERICAN POMOLOGICAL SOCIETY.

In one of our recent issues, we stated, on the authority of one of our morning papers, that the Academy of Music had been selected as the place of holding the meeting. We have since learned that this announcement was premature, and that the Academy has been decided to be unsuited to the purpose.

The Assembly buildings, at Tenth and Chestnut Streets, have since been engaged, and the committee in charge of the subject could not have hit on a more suitable Hall or locality, as it is so arranged that the fruits on exhibition will be in a separate room from that in which the discussions are to be held.

From all appearances a delightful time may be anticipated.

PHILADELPHIA AGRICULTURAL SOCIETY.

The advertisement of this, the oldest agricultural society in the Union—appears in our regular department, and the exhibition itself will we are sure be as popular as usual.

There are several points in the schedule deserving of attention from lovers of rural taste. Amongst

others a premium of \$50, for the best display of rustic seats by the sons of farmers. Fruit and flowers are also invited by handsome premiums, and our gardeners and fruit growers will no doubt cordially respond with their productions.

We shall be glad to exchange other numbers for those of January and April. Those who have spare numbers of these months would oblige us.

Questions and Answers.

"AMATEUR," J. S. Atkinson, W. R. Prince, and other friends, next month.

GRAPE DISEASE—J. B. C., *Lake Mills, Wis.*—The little tufts on your Grape leaves are excrescences produced by an unknown insect. Should be obliged by a few more perfect specimens to hatch the larvæ from.

DISEASE IN THE NORWAY SPRUCE.—In a private letter Mr. Sargent writes:—"I am in some trouble about the Norway Spruce. My best specimens are very dingy, having a thin sparse look, and of a bare, unhealthy color, as if preyed on by some spider. I remember calling your attention to this fact last Summer, when Mr. Reid, who was with you, suggested that they might require stimulation. I have given them this abundantly during the Winter, but they do not improve. I am the more impressed with this disease, if disease it be, from having observed recently all the trees in the Capitol grounds, at Washington, and in some of the private grounds there, as well as in Baltimore, and up and down this river, are all more or less affected, at least all trees over 12 to 15 years old.

I cannot help thinking that our late severe winters have something to do with it, by producing a sort of blight or blast, generally upon the inner portions of the trees, where the vitality and circulation are less active, though there is, under a microscope, a cell, and the remains of some very minute spider, I think on the axils of the branches. I should be glad if some of your correspondents can give us some light, for if all Norway Spruces, when they arrive at the age of 20 years, are to look like some of mine, it would be hardly worth while to cultivate them. I observe in this neighborhood however, that our red and black Spruces, and Balsam Fir, are equally affected with the Norway Spruce—perhaps worse."

We should be glad to hear from some of our observing correspondents, whether they have noted the disease Mr. Sargent has, and can suggest any cause?

SEX OF EGGS—*Viola*.—Your experiments result

as Richard Smith stated, in proving the centre crown the male and the side crown the female. We hoped by withholding the information a while, to receive accounts of experiments that would fully test the theory; but yours is the only note so far received on the subject.

MEETING OF SECRETARIES OF HORTICULTURAL SOCIETIES.—Mr. M. S. Frierson, of Columbia, Tenn., suggests that a meeting of the principal officers of the various Horticultural Societies, to talk over matters and things in relation to horticulture, would be productive of much good.

APHIS ON APPLE TREES—W. F. B. *Sharonville, O.*—If Burning Fluid or Turpentine injure your Apple Trees, you will be able to detect the injury in a few days afterwards. It would be well therefore to try a few first, and when the proper strength had been tested, use it over the whole.

PROPAGATING HOUSE—*Maple Leaf*.—"The Propagating house spoken of in my last, was built for the purpose of facilitating the making of roots upon cuttings of the Grape, Currant, Paradise Stock and other profitable things in this line, about as any of the leading Nurserymen do in Rochester, N. Y., with their houses during the winter, which is supposed to be understood.

The information required was how such houses were applied in summer."

[Where grapes are an article of propagation, as our correspondent now informs us, we think he could not use the house to a better purpose, than growing them in it in summer time. Young weak plants would be better and stronger at the end of the season, than if grown in the open air. Some maintain a high temperature, and keep the grapes growing, and layer them as they grow.

Others who have a good market for evergreens, raise choice kinds from cuttings, and keep growing in the house the first summer.]

LIMESTONE QUERY.—Where limestone strata exist within a few feet of the surface, is not the surface stratum modified? Do we not always find beneath the clay and next to the rock a considerable depth well adapted to be put upon the surface? E.

[We think this question could only be answered satisfactorily by actual experiment. The surface (upper?) stratum would certainly be modified, but whether mixing it with the surface soil would or not be beneficial, must we think, as in the case of lime itself, depend on the condition and circumstances of the surface soil, at the time of the proposed mixing.]

PRUNING TREES AT TRANSPLANTING.—Dear Sir: I have great respect for any opinion you give through the *Monthly*, which, allow me to say, for practical talent, and combined scientific accuracy, I regard as unsurpassed by any journal published. With this view I was not well pleased with your hit at Vegetable Physiologists in your last number, and would ask you again to review your opinion. I think there is not a clearer truth in any science than the one in Botany, which teaches that there can be no root growth without leaves; and the inference is legitimate that the greater the number of branches to bear leaves, the better it must be for root growth. Hoping to see your retraction, or reasons for your views in your next, believe me truly yours, D.

[At the risk of losing our talented friend's good opinion, we cannot "retract," but we will agree to reason.

If we cut down a young Willow tree in Spring, and plant it as a cutting with all its head on, it dies. If we take off all its head, and plant the "bare pole," it pushes out a new growth, and soon makes a new tree. By the old views our friend advocates, the more head the better; and it is the latter, with its "double injury," as some writers call it, the loss of head and want of roots—that ought to die.

It is so with all cuttings, as every practical gardener knows—a long stem left out of the ground, and but a little way set in, invariably dies, and the more rapidly if a hot dry air exists about it.

A tree transplanted approaches the condition of a cutting, and requires analogous treatment.

We are amused at the idea of our "hitting" science. Our friend mistakes a false philosophy for scientific truth. Those who contend as he does, overlook the fact that evaporation is continually going on from the branches, before the leaves push, and that it is possible for all the sap to dry out before leaves appear, when, of course, there will be no leaves nor vital action of any kind. That an abundance of leaves favor root growth, we grant; but there will be few leaves without vigorous growth, and this it is which pruning, by checking excessive evaporation, achieves.

This is our "reason"—not derived from a specious philosophy, which never changes, as it ought to do, with the accumulation of facts—but founded on the simple observation that a well pruned transplanted tree or cutting rarely dies, while unpruned ones often do. No one venerates "laws of Philosophy" more than we do; but they are not as unchangeable as those of the Medes and Persians, and we like to see them tempered occasionally with experience.]

ADVERTISEMENTS.—A Canadian subscriber writes, that, seeing an advertisement in the *Monthly*, he enclosed an order to the advertiser, with \$18 for the

things advertised. Though having to travel some hundred miles, no moss was used in the packing, and the whole on arrival was one mass of dirt and rubbish, and nothing of consequence could be detected in the mass. He procured a sworn statement of the outrageous nature of the packing, and forwarded to the advertiser, and though several applications have been made, he can get no word of explanation from the party in question. He finishes by saying: "On the strength of seeing the advertisement in a journal of such high character for reliability as yours enjoys, we forwarded the money; and you must see how such acts hurt not only your journal but upright parties advertising therein, as a stranger is unable to distinguish the one from the other."

It is a rule—well known to lawyers—that a client is of all parties the least able to state clearly his own case; all we can say is, that, judging from our correspondent's own statement, he has been very uncourteously if not unjustly treated. Most upright business men would have been glad of an opportunity to explain; and, if proved in the wrong, to make reparation.

If, however, our correspondent has not been more just to his nurseryman than he is in his inferences about our paper, we opine the "other side" might have something extenuating to say. How is it possible for us to know the business characters of our advertisers? And why should the credit of the paper suffer for an advertiser's individual delinquencies? The advertising department of a paper, is like a public street in which every man has a right to hang out his "sign." You find so many good things in that street, that you would not go elsewhere, though the cost of getting to it were "threefold what it is" (as he further says of our paper). Would it be right to think the worse of the street, or of other dealers in that street, because a trial of one of the merchants there had proved so unsatisfactory?

If we know a man's business to be in itself a swindle, we might of course be held responsible for its appearance in our advertising columns; just as the police would be held responsible for mock auction or gambling saloons in a public street. We do not permit such advertisements. But where the business itself is legitimate we have no control over its advertisements, or any other method in which a man may mistakenly or otherwise think proper to manage his affairs.

Of the party named in our correspondent's letter, we know nothing.

We would advise all our readers, never to trust implicitly to an advertisement in making purchases. That a man understands his business—of which packing is an important part—and that he has a good reputation for probity and honor, is of as much importance as the

fact that he has goods to sell at certain prices, which is all that can be learned from an advertisement.

A man's reputation in these matters must be learned from other sources.

NAMES OF PLANTS—*J. H. C., Dyersburg, Ky.*—Your plant is *Platanthera fimbriata*. The "large purple fringed orchis."—*C. Georgia,*—*Turnera cistoides*, it is not common. *M. G., Greensburg, Pa.*—Probably *Wistaria* or *Glycine frutescens*. If you would send us a leaf or flower it would save us much time in "guessing the plants enquired about."

ROSE SLUGS—*J. R. F., Ellicott's Mills*—Will find by a note under Dr. Norris's article in another column how to destroy soft skinned insects of all kinds, this amongst the others. We do not recognize to which species of beetle the larvæ sent belong, as they were completely crushed on arrival.

PRINCE IMPERIAL RHUBARB—*From Barnes and Washburn, Dorchester, Mass.*—We handed over to the Pennsylvania Horticultural Society who noticed it in their last report. It has long slender stalks, not prepossessing in appearance. We had it afterwards prepared for table, together with Prince of Wales, the best scarlet kind we have, and found it superior in color and texture to that good kind.

SPENT HOPS FOR HOT-BEDS—Will you please, at your earliest convenience, inform me through your *Monthly* if used hops from the brewery make hot-beds, and if so how to use them, and oblige a Canadian subscriber.

[We do not think they have been used here; but they are in great request for hot-beds in the gardens around London; a full detail of which we have given in a letter from one of our English correspondents, at page 94 and 95 of our last volume.—Ed.]

DR. UHLER'S PLAN OF RESTORING HEAT IN HOT-BEDS.—A correspondent asks us to account for Mr. Johnson's failure to get up heat in tan by this process, as detailed in a past number. We cannot explain. Dr. Uhler's plan usually restores heat in tan after the original has declined; but when no heat would originate in the tan, it would be hard to "restore" it, and the evil must be searched for in the tan itself, which usually heats of its "own" accord.

We have had Dr. Uhler's plan even to originate heat in a pile of sawdust.

GRAPE CULTURE AT HAMMONDSPORT.—We received from a friend at Hammondsport New York, some valuable information on Grape prospects there,

too late for our last number. The facts have now become so widely circulated since that its insertion now would be stale. We hope, however, that our friend will continue to favor us with his correspondence.

NEW STRAWBERRIES.—*Randolph Pine Strawberry.* A bottle from Mr. O. T. Hobbs reached us in bad condition. An imperfect fruit, however, from a small plant we have growing, leads us to form a good opinion of its flavor.

The *Fillmore* from Feast & Son, Baltimore, sent us for the Fruit Growers' Meeting, had fermented on the way, and were worthless. We exhibited them, however, that the members might judge of its appearance under the circumstance.

The *Austin* Seedling was promised, but did not appear. A quantity sent to Philadelphia, however, had fermented as the *Fillmore* had done, and no just opinion could be formed.

The evident desire of these parties to place their Seedlings before the judgment of the public, is a good sign in their favor.

Wizard of the North Strawberry.—A friend suggests that the leaf of the Wizard, as drawn in our last, looks very small; but we have figured no leaf. What is given is but a leafy bract on the fruit stalk. A leaf would have filled our whole plate, and added needlessly to the already costly lithograph.

CATERPILLARS ON CABBAGE—*John, Lynchburg, Va.*—"The greatest obstacle to raising Cabbage is the Caterpillars, whose ravages in July and August, are more injurious to this crop than all other enemies combined. Many applications may be made which will destroy the Caterpillars but are dangerous to the market value of the Cabbage—such as Guano in solution, Tobacco-dust, &c. What do you think the best preventive—economy of labor and efficiency of application being considered."

[Under the circumstance we could only recommend hand-picking by boys.—Ed.]

HISTORY OF THE DIANA GRAPE.—T. P. C. says: "I noticed in the April number a writer upon Grapes says, that the Diana is thought to be of American origin. If you would like the history of the original Diana vine, I can procure it, as I am acquainted with the lady that raised the original vine from seed, and have vines in my garden taken from the original stock. Her name is Diana Crehore.

The history of the Diana is now so well known, that we think the detail so kindly offered would be new to but very few of our readers. "American origin" is a term used by writers on the Grape to designate a variety raised from the American race of

Grapes. "Foreign origin" means from the foreign race, though raised on American soil. "Foreign introduction" is when the variety itself was imported from abroad.

Books, Catalogues, &c.

HOME BOOK OF HEALTH AND MEDICINE. By Dr. Alcott. Philadelphia: Published by G. G. Evans & Co.

Bodily health, and a sound constitution, are indispensable elements in the true enjoyment of life.—Whether every position of the author would receive the subscription of all in the profession, we do not suppose probable; but we have derived a great deal of interest from perusing the book, and would recommend it to our readers. The Doctor says of Horticultural pursuits:

"I do look forward with confidence to a period in the world's history when the best interests of mankind, as a whole, will be seen to involve the necessity of agricultural or horticultural labor three or four hours a day, by every one who is old enough.

"Some, I know, may smile to think how a young woman of fashion would appear, while pruning grape vines, cultivating strawberries or gathering them, or budding or grafting trees, with tawny hands, and sunburnt cheeks; but had they the most distant conception of the advantages it would secure to her, they would smile rather at the superlative folly of those present customs which deny her their pleasures as well as their benefits.

"Did professional men, students, and all our public teachers, know half the advantages which are to be derived from devoting but a few hours, daily, to these same exercises, they would not, as it seems to me, be half as often weighed down to the ground with a load of nervousness, hypochondria, dyspepsia, scrofula, and consumption. Did our factory people understand this subject better than they do, and would they, in these days of improvement and 'striking' for certain supposed privileges, strike also for time and means of laboring four hours a day on some little spot which they could either buy or hire at a reasonable rate, they would not so often break down their constitutions, and become sufferers for life."

OUTLINES OF THE FIRST COURSE OF YALE AGRICULTURAL LECTURES. By Henry S. Olcott.—New York: C. M. Saxton, Barker & Co.

These "Outlines" are made up from the notes of the *Tribune* reporters, and have been revised by the Lecturers themselves previous to their final publication. The publisher deserves the thanks of the community for this—the best effort that has been made

to put these popular essays on a permanent and useful basis.

GODEY'S LADY BOOK.—We have received from the publisher a set of his valuable periodical, now so well known through the country by its devotion to the different branches of the *feminine arts, sciences and literature*,—such as worsted work, embroidery, dress-making, household economy, music and even Cottage Architecture.

We are pleased to see that even gardening is not forgotten, which is a sure sign that the magazine is in great favor with the ladies.

PATENT OFFICE REPORT FOR 1858.—This volume has been for some weeks on our table, and even now we reluctantly take it up for notice—reluctantly because the good intention of this division of the government service is so apparent through its most futile results, that criticism becomes painful.

It opens with a frontispiece of that notable piece of folly the "Government Tea Gardens." When this scheme was first propounded, and the appointment of a collector to China sealed by the selection of Mr. Fortune, opposition was in a measure quieted by the supposition that though thousands were to be fooled away in this brilliant chimera of the famous D. J. B., Mr. Fortune would probably introduce for us many other kinds of seeds of the new trees and shrubs, for which the celestial region is so famous; and in this way compensation was hoped for. But it has since turned out that Mr. Fortune was employed only to get the tea, and the other things, which would have really been a blessing to our country, seem to have been a perquisite to Mr. Fortune, for seeds collected by him in China, as it has been supposed, are now being freely sold to the English nurserymen, who will be graciously pleased to draw one or two hundred thousand dollars from us during the next five years, to pay for seedlings, for the collection of which we have already paid our own money. We have no fault to find with Mr. Fortune. He filled his contract—all that could be expected of him; but the reflection that we have been Done Just Brown by the "D." "J." "B's" of the patent-office in a matter that might have redounded to the glory and good of the country, is painful to all patriotic minds.

As to the tea plant itself hundreds of fine plants already exists in the gardens of the Southern States, from which, probably, as many tea seeds could be procured as were sent and raised at such an enormous expense from China; and even could these not be had, any nurseryman would have contracted to furnish the department, in the two years already occupied in the nonsensical pursuit, from trees in the United States, 500,000 of better plants, than they will now have in the same time, for \$150 or \$200 per 1000.

A mere drop as compared to the actual cost already incurred.

The proper object of this department, should be the collection of statistical information, that is usually out of the reach of newspapers and Agricultural Societies; instead of which it is filled with trashy treatises on Education, in which all rules of grammar are violated; and with specimens of composition and reasoning that would disgrace a school-boy.

The redeeming features of the volume are the chapter on the proposed statistics of Agriculture, and that Meteorology, by Prof. Henry.

The rest is little more than waste paper.

THE CULTURE OF THE GRAPE AND WINE MAKING. By Robert Buchanan. Sixth Edition. Cincinnati, O. 1860.

In our notice of wine making around Cincinnati last month, we promised to give further the views of Mr. Buchanan. The principal point left unnoticed last month, was mainly a description of the wine press, which is perhaps already sufficiently clear to the reader.

The present work, the sixth edition, shows the appreciation which the public bestows on Mr. Buchanan's views. It is divided into full details concerning the VINEYARD, MAKING WINE, and STATISTICS OF WINE MAKING; besides much useful matter by way of appendix. We do not know the price of the book; but judging from its size, it cannot be expensive. We cordially recommend it to the attention of our readers, as no one interested in the subject can afford to be without it.

NURSERY CATALOGUES.—*John M. Nelson*, New Orleans, La.—Fruit shade and Ornamental Trees.—We never receive a Catalogue of any fine Southern Nursery, but we envy the many fine things their climate allows, but of which ours deprives us of. Here we have as usual Gardenias, Norfolk Island Pines, Camellias, and many other tempting things.

H. P. Penniman, Battle Creek, Michigan.—Descriptive of Fruit, Ornamentals, Roses, &c.—Said to be the most extensive Nursery in Michigan.

Mendenhall & Sons, Richmond, Indiana.—An old and enterprising house. Now, with the "Sons" added, there will be, as the Catalogue indicates, an increased energy.

J. T. Barrett, Factoryville, Staten Island, N. Y.—Fruit and Ornamental Trees, including the choicer kinds of Evergreens.

R. S. Reeves, Keysburg, Ky.—Fruit and Ornamental, with full list of Roses, Dahlias, &c.

Cowles, Roberts & Co., Syracuse, New York, (formerly Cowles & Warren.)—Fruit and Ornamentals.

Joseph Taylor, Newport, Ky.—Fruit and Orna-

mentals. Another enterprising firm. Greenhouse plants form a prominent feature in this list.

W. M. Carr, Springfield, Mass., (Successor to Chauncey Brewer.—Roses, Greenhouse and Bedding Plants.

F. Prentice, Toledo, Ohio.—Fruit and Ornamental Trees, occupies 55 closely printed pages.

New or Rare Plants.

CHAMÆBATIA FOLIOLOSA.—This beautiful shrub was first described by Dr. Torrey in the "Plants of the Fremont Expedition," and was discovered by that memorable little party on the mountains of Sacramento, in California.



It is the only known species of the genus, and is nearly allied to, and resembles in general appearance, the Agrimonia of our woods. It might, in fact, be called the Shrubby Agrimony. It is also nearly related to the *Cercocarpus ledifolius*, figured in our June number, though presenting

a different look. By the enterprize of the Veitches' of London, it has been recently brought into cultivation, and is already commanding great attention. Sir W. Hooker says, it is "assuredly highly ornamental;" and the *Collage Gardener* says:—

The Fern or Lycopod-looking evergreen, close-growing shrub called *Chamaetia foliolosa*, is really a gem of a thing, but is up at a stiffish price yet. Mr. Veitch exhibited dried specimens of the flowers of this little charmer at the Crystal Palace, and you would take them for Mays or Hawthorn blossoms in that dried-up state.

The flowers are white.

NEVIUSIA ALABAMENSIS.—Our young botanists will have a new incentive to their exploring labors in the older settled States, by the discovery of an entirely new genus in the State of Alabama, of which the cut annexed is a representation.



It is a small shrub, growing but a few feet in height, with numerous white flowers; the whole habit and appearance giving a *Spiraea* suggestion, though it is said to have a closer affinity to another genus of the same natural order—the Common *Corchorus japonica* of our gardens.

It was discovered by the Rev. Mr. Nevius, and named in his honor by our distinguished botanist, Dr. Asa Gray, of Cambridge, Mass.

NEW PLANTS exhibited at the Summer meeting of the London Horticultural Society, chiefly from Messrs. Low, of Clapton, who sent *Alocasia metallica*,

an ornamental foliaged stove plant allied to *Caladium*, with large, shining, bronzy leaves covered with a singularly beautiful metallic bloom; *Sphaerostema marmoratum*, a silvery white mottled-leaved climbing stove plant, which will form a good companion to the well-known *Cissus discolor*; *Anætochilus Petola* from Java, with dark green leaves, beautifully traversed with pale yellowish veins; *Plocostemma lasianthum*, a warm greenhouse shrub, with blossoms resembling those of *Cyrtoceras reflexum*; and the pretty little Bornean Fern called *Lindsæa Lowii*.

GYNERIUM ARGENTEUM—*The Pampas Grass*.—(See *Frontispiece*.)—We had the pleasure of seeing last season, on the grounds of Mr. Alfred Cope, near Philadelphia, a beautiful specimen of this noble grass, of which the engraving, from the *Floricultural Cabinet*, is a correct representation. Mr. Cope's plant had not quite so many spikes of flowers as the one engraved. It had stood out the previous severe winter, by having some dry leaves piled over it, and some branches placed on these to keep them from blowing away.

Where they have been entirely unprotected, we believe they have been destroyed, but the rare beauty and noble aspect of the plant, render the trifling care necessary to its preservation not worth talking about.

New and Rare Fruits.

APPLE.—*Father Abram* is thus described by Dr. Warder in the *Prairie Farmer*:—

It is generally supposed to have come from Virginia. Its productiveness, soundness, and good keeping qualities, render it valuable; besides all this, the fruit, though unprepossessing, is very good.

Description.—Globose, oblate, uneven; medium size; yellowish green, partially covered with red, mixed, streaked, and splashed; dots minute and scattered. The basin is shallow, wide and wavy; eye, small and closed; cavity, acute and regular; stem, long, inclined; core regular, closed; seeds, numerous, short, plump, pale brown; flesh, greenish-yellow, becoming yellow, fine-grained, juicy, sub-acid and rich; use, for table and cooking, as well as for cider; quality, nearly first-rate; season, from March till May.

The appearance of this fruit is rather against it, but those who know its many good qualities willingly overlook its plain exterior. This may be the fruit described by Downing as the *Bullet*, page 124, revised edition.

OSCAR AND SIR CHARLES NAPIER STRAWBERRIES, at the last meeting of the London Horticultural Society.—The best Strawberries were contributed by Mr. Smith of Twickenham. The sorts were Sir

Charles Napier, and a large dark-colored new variety which was said to be of good flavor. The only other new kind we saw was Oscar, of which Mr. Turner, of the Royal Nursery, Slough, showed a dish of large and beautiful fruit.—*Gardener's Chronicle*.

STRAWBERRY VICOMTESSE HERICAUT DE THURY is generally grown in England as "*Duchesse de Tre-vise*."

THE ALBION BLACKBERRY, introduced by Mr. Orange, Nurseryman of Albion, Southern Illinois, is highly spoken of in the *Prairie Farmer*, *Cincinnatus*, and other Western Journals. It is a light colored variety.

STILL ANOTHER NEW STRAWBERRY.—*Princess Frederick William*—Raised by Mr. Niven, of Dublin, and claimed to be the "earliest known;" color "admirable," flavor "exquisite; as a force" "unsurpassed," &c. It is advertised in the English periodicals at "one shilling each." John Bull has to pay "Strawberry prices" for novelties, as well as his brother Jonathan. It is said to ripen in Dublin 29th of May.

BOWOOD MUSCAT GRAPE.—A correspondent of the *Scottish Gardener* says, that with him this variety exceeds in fruitfulness any thing he ever grew, and that the berries are one-third larger than Muscat of Alexandria, grown in the same house.

THE BOSTON LADY CURRANT.—At a meeting of the Illinois Horticultural Society, Mr. Ordway described the Boston Lady Currant as a white variety, the fruit of which was not only unusually large, but also as bearing double the quantity of other kinds. He has seen the currants taken off a single stock of 12 inches fill a quart measure. They are also very fine flavored, sweeter than common, but a little later in ripening.—*Michigan Farmer*.

Domestic Intelligence.

SALMON BERRIES, a superior native fruit, are now becoming plenty in Humboldt County. The *Northern Californian* says "the present season promises an abundant supply of these berries, and such a bountiful gift of nature's beneficence should by no means be disregarded. A bush laden with this golden fruit is truly a beautiful sight. The large and delicious globes amid the luxuriant foliage of the parent stock tempt the hand to gather and the lips to taste their excellence."

BUDDING GRAPE VINES.—A correspondent of the *Gardener's Chronicle*, has succeeded in budding Black Hamburg and other Grapes in cold graperies, by operating about the 10th of August.

EXPENSIVE FRUIT.—Pears have been received at New Orleans, La., from Mississippi. Two bushels brought \$60, over freight and other expenses.

FOR THOSE AFFLICTED WITH GRAPE FEVER.—It is said that a new variety of Grape has been discovered in the East of such amazing power, that from a remarkably accurate drawing alone of a single bunch a "Yankee" has made three bottles of most superb wine, for which he has been offered an immense sum. He does not, however, intend to sell any till he receives 100,000 subscribers at \$10 a bottle.

SELECT PEARS.—J. M. Earle of Rochester, Mass., one of the most experienced and reliable of Pear amateurs, recommends for his part of the country the following:—

AMATEUR'S LIST.

1ST TWELVE.—Baronne de Mello, Belle Lucratif, Beurre Bosc, Beurre Superfin, Doyenne du Comice, Durandean (De Tong,) Gray Doyenne, Marie Louise, Paradise d' Automne, Seckel, Urbaniste, Winter Nelis.

2D TWELVE.—Bartlett, Beurre d' Aremberg, Beurre St. Nicolas, Brown Beurre, Figue d' Alencon, Glout Morceau, Mareschal de Cour, Passe Colmar, Rostier, St. Ghislain, Thompson, Zephirin Gregoire.

3D TWELVE.—Alexandre Lambre, Beurre Giffard, Beurre Montgeron, Dix, Doyenne Boussock, Easter Beurre, Flemish Beauty, Jules Bivort, Kingessing, Lawrence, Madam Eliza, Sheldon.

ORCHARDIST'S LIST.

Bartlett, Beurre d' Anjou, Beurre Nantais, Buffum, Capiaumont, Catillac, Doyenne Boussock, Duchesse d' Angouleme, Figue d' Alencon, Lawrence, Leon Leclerc of Laval, Louise Bonne de Jersey, Paradise, d' Automne, Seckel, Swan's Orange, Vicar of Winkfield

LINES TO MY HERBARIUM.—A correspondent, writing from Hillsboro' N. C., says: "That piece of poetry which you attribute to the Poet Sprague, is not by him, but by his son, J. C. Sprague—a poet, nevertheless, as you may infer from these "Lines to his Herbarium."

ORCHARD HOUSE OF G. G. HUBBARD, Esq., CAMBRIDGE, MASS.—*Hovey's Magazine* says was built in 1859, is 115 feet long by 18 wide, and contains 150 trees of Pear, Apple, Plums, Cherries, Peaches, Apricots, Nectarines, Figs, and Grapes in tubs 18 inches in diameter. Under the care of Mr. Walsh, gardener, they are models of beauty.

FINE MAGNOLIA GLAUCAS.—A correspondent near Campbellton, Geo., speaks of some specimens near there 60 to 70 feet high, in a rich bottom soil. We presume these cannot be excelled by those of any other localities.

Recipes for Fruits & Vegetables.

"The lady who contributes a good recipe for the public benefit, deserves as much credit as he who introduces a new fruit or vegetable."—*Good Authority.*

TOMATOES FOR TABLE.—Take good ripe tomatoes, cut them in slices, and sprinkle over them finely pulverized white sugar, then add claret wine sufficient to cover them. Tomatoes are sometimes prepared in this way with diluted vinegar, but the claret wine imparts to them a richer and more pleasant flavor, more nearly resembling the strawberry than anything else.

PRESERVING CURRANT JUICE.—The following is the way currant juice can be kept without the expense of sugar. Pick any quantity of red or white currants from the stalk, place them in open jars, and put these jars in a pan of cold water; heat the water to boiling, and until the currants are quite soft; leave them to cool gradually. When cold, squeeze the juice out through a coarse cloth or sieve; replace the juice only in jars, and boil it gradually as before. When perfectly cold, bottle in half-pint bottles, to be well corked and kept in a cellar. N. B.—Take care not to let the water get to the currants. If not too much squeezed the pulp may be reboiled with coarse sugar to serve for tarts. Every one who has been in France knows how exquisite sirop de groselle framboise is on a hot day—that is made with sugar and some raspberry, added to the currant, and is of course more expensive.—*Floricultural Cabinet.*

BLACKBERRY WINE.—To every gallon of crushed berries add one quart of boiling water; let it stand 24 hours; then squeeze through a jelly bag; to every gallon of expressed juice, add 2lbs. of good brown sugar, white of 2 eggs, beaten to a froth, and stirred in the juice; cloves, spice and nutmeg, small quantity beaten together and put in a small muslin bag, then dropped in the juice. After all are well mixed, put it into a stone jug or cask, filled up and kept full with some of the same juice reserved for that purpose, until it is done working, which will be in two or three weeks. Bung it tight, and put it in a cool place for four months; then pour off into bottles with a little loaf sugar in each bottle. Cork and seal close. If the wine is kept for twelve months it will still be better; and it will continue to improve with age. — *Southern Cultivator.*

PRESERVING FRUITS IN CANS.—To one pound of the fruit, I put a quarter of a pound of white loaf sugar. Put them over the fire together. Let them

boil up once. Then have your cans in a pail of water as hot as possible without breaking them—have them also filled with water of the same temperature. Let them remain so for a few moments. Then, while the fruit and sugar are boiling hot, fill the cans while they are setting in the water. They must be filled to the very top. Then put the cover on, and seal with the cement. After filling them, take them out of the pail of water and put them away to cool. After they are cold, turn them over on the cover side, and let them remain so until you wish to use them.

I have saved fruit in this way for three years; and have now strawberries and peaches that are as fresh as though they were picked this year, which are a year old.

I always use the glass cans, for I consider them more pure than any other kind.—M. H. K., Auburn.
—*Country Gentlemen.*

SQUASH CAKES.—Mix fine flour with half its bulk of stewed squash or pumpkin, and add milk enough to make a thick batter; cook on a griddle.—*Rural New Yorker.*

GREEN CORN for eating should never be boiled more than four or five minutes. If boiled longer than five minutes it becomes hard and tasteless.—*Cotton Planter.*

RASPBERRY SANDWICH.—Take half a pound of sifted sugar, half a pound of butter, two eggs, and two ounces of ground rice, work them well together, then add seven ounces of flour. Spread half this mixture upon buttered writing paper, in a shallow tin dish, then a layer of raspberry preserve, and next cover with the other half the paste. Bake in a quick oven, and when required for use, cut it into thick pieces like sandwiches, having previously sifted a little sugar over it.—*Floricultural Cabinet.*

GREEN BEANS AND CORN IN WINTER.—My wife has a stone jar that holds just a bushel of prepared beans. She has had it these twenty years, I believe, and she will always have it full—and her way to fill it is this: First get the beans, then string them, next cut them as for present use, carefully rejecting all that may be so old as to have the bean formed in them; then rub them well between your hands with fine salt, after which pack them in the jar aforesaid, a layer of beans and a layer of salt, till the jar is full. Tie a piece of oilcloth over the top of the jar, and the beans are ready for use! They will form a pickle for themselves, and come out of the jar as fit for use, three months afterwards, as the day they went in. As for cooking, either soak them over night, or change the water in boiling; boil slowly. I have heard my

wife complimented on having beans so early by parties eating her old ones; kept over as above set forth. Try it somebody.

To have the corn to cook with the beans, get some sugar corn—Stowell's evergreen is the best—scald it two minutes and thirty seconds, to curdle the juices only, not to boil it; cut it from the cob, and put it in jars in a pickle strong enough to bear an egg; seal the jars. This corn will come on the table as white and fair looking as if taken from the field the day it is eaten. In serving up, add a table-spoonful of sugar, to compensate for the juices withdrawn by the salt. Try them both; they are not hard to take, separate or mixed.—*Press*.

ANOTHER WAY OF CURING GREEN BEANS FOR WINTER USE.—Pick good, tender, sweet string beans, cut them into pieces about three quarters of an inch in length, throw them into boiling water, let them stand five minutes; then having the oven heated just hot enough to avoid burning the beans, spread on tin or earthen dishes, set them into the oven, and let them remain there till perfectly dry, when they should be put up in small bags, and hung in a cool, dry place. When you wish to cook a mess of corn and beans, put them to soak over night in warm water, and cook them as usual.—*Homestead*.

Foreign Intelligence.

THE LARGEST HORTICULTURAL BUILDING IN THE WORLD is about to be built at Kew Gardens. It will cover as much space as the Great Eastern, and will be 700 feet in length. It is intended as a Winter Garden and for Australian plants.

VICTORIA REGIA IN ITS NATIVE WATERS.—Dr. Lallemand, in a letter from Pernambuco, published in *Bonplandia*, says that in a river that runs near Cerpa he saw Victoria plants in profusion, and that a species of *Melolontha* makes its home in the flowers of the *Victoria*, so that the Queen of Flowers, like the royal potentates in the world of humanity, finds its peculiar parasites that feed on and nestle about it.

ARTIFICIAL PARASITIC PLANTS.—Capt. R. Mignan, in his *Travels in Chaldea*, says the Arabs slit the stems of the "Alhagi" (*Hedysarum Alhagi*, Linn.) near the ground and insert seeds of the water-melon, which germinate and grow on the roots, in ground too dry for its own to succeed.

Recent French Pomologists assert, a pear seed can in like manner be made to germinate in a slit in a pear stock. Curious facts, if true, which can, however, be easily tested by any one inclined to try.

FOREIGN GRAPE SYNONYMS.—Experiments made last year in the London Horticultural Society's Gardens, make the Welbeck Black Tripoli, which in this country we consider the true one, the same as *Frankenthal*. To this variety they also refer the *Victoria* and *Pope Hamburgs*. Mill Hill Hamburg, and *Wilmots*, they say are the same as the Dutch Hamburg.

SURFACE MANURING.—Prof. Leibnitz, of Eldena, has been experimenting with two roods of ground in four parts. To No. 1 no manure was given. No. 2 received about two tons of farm yard dung, which was spread immediately and covered in by means of the plow. No. 3 was treated in the same manner, with this difference, that the hoe was used instead of the plow. The same quantity of dung was carried to No. 4, and allowed to remain spread for three weeks on the soil before being covered in by the hoe. On the 10th of October the four lots subjected to experiment were sown with about 95 pints of rye seed each. The following are the total results of the crop of each lot, grain and straw included:

No. 1 produced 583 lbs.	No. 2 produced 770 lbs.
" 3 " 818 "	" 4 " 935 "

TREE HELIOTROPE.—Aug. Bauman, in *Deutsches Magazine*, describes a way to make tree Heliotropes. Vigorous seedlings are selected, and side shoots taken off till the height necessary to form the head is attained.

GRAPE MANURES.—Strong or stimulating manure is most dangerous to the vinous property of the Grape. The general rule in wine-producing countries is to manure only with its own cuttings, or the refuse of the grape when pressed, which contain tartar, essential to the vinous property of the grape. Excessive richness of the soil, though it gives a larger crop, and the best fruit for the table, detracts from the character of the wine. There have been several remarkable instances of this fact; amongst others, the celebrated vineyard of Johannisberg, which some fifty years since having been richly manured, it for several years afterwards produced a grape which gave wine of an inferior character, and much deteriorated in quality. It took twenty years before the soil became sufficiently poor to restore the vinous quality of the grape. Soils which produce choice and rare wines are never manured with any description of fetid manure, generally applied for the purpose of fertilizing land; but wool, horn, bones, and the cuttings and refuse of the vine itself, being only used. The scientific botanist tells us that the vine only takes up from the earth carbonic acid, ammonia, etc.: practice and experience, both ancient and modern, affirm the contrary.—*Florist and Fruitist*.

THE RED SPIDER.—In one of the finest pear orchards in New York we saw, last season, the Red

Spider making terrible ravages. As few but plant growers have hitherto had much acquaintance with the pest, the following from the *London Gardener's Weekly* will be interesting:

"The red spider is an *Acarus* or mite, and apparently of foreign origin. When inspected with a good magnifying glass, it has somewhat the appearance of a crab, of an oval shape; it has eight legs, two pairs of which project forward, and as many backwards, all covered with short hairs; there also are a few longer ones scattered over its body. Its color is yellowish, inclining to orange, and on the thorax, near the head, are two distinct scarlet spots, one on each side. The female insects are larger than the males, and are of a color inclining to chestnut, with a lead-colored spot on each side.

"They increase by eggs, of which a vast number are produced, and in eight days hatched.

"The red spider infests the under sides of the foliage of plants, and when there is a considerable colony, they spin a kind of fine web, which has given rise to the common name by which this insect is known. It attacks the plants by piercing the under surface of the leaves with its short rostrum, or beak, and imbibing the juices, of which, for so small an insect, it appears capable of doing very largely. This gives rise to small yellow spots and patches on the upper surface, which spread in a short time over the whole. These attacks will continue, unless checked, until the tree or plant drops its foliage, and becoming quite exhausted, dies; young plants are especially liable to suffer.

"An attentive observer will not fail to remark that this insect loves warmth and dryness, and that it commits greater ravages out of doors in summers that partake of that character. As a correct knowledge of the disease mainly contributes to the cure, it has been therefore found that moisture is the best remedy for this pest. Syringing well (the under surface of the leaves more particularly) will do much towards getting rid of it, especially if taken in time. In stoves and vineries we have found a good warm steaming by pouring water on the flues, pipes, paths, etc., and shutting the houses up early whilst the sun is on them, very beneficial. Sulphur may be applied if other remedies fail, by being mixed with the white-wash when the walls are painted, or by painting a thin mixture of this and water over pipes, flues, or warm walls. It may be given to open air crops by means of a syringe or with a fine rose from a watering pot. The great secret, however, in keeping houses, plants and crops free from insect attacks of all kinds, is to apply the proper remedy as soon as they are discovered. This will also save a world of trouble as well as time, and the loss of numbers of plants; we have sometimes had to recommend, in

cases of great neglect, that the greater portion of the stock should be thrown on the dung heap."

A CHEAP MOWER.—A correspondent of the *London Cottage Gardener* keeps a sheep or two of the Bretagne breed—miniature little fellows, not weighing more than 17 lbs.,—and when the lawn is not too wet, encloses them in small wire hurdles, shifting them daily, and not only saves mowing thereby, but, in addition to the enjoyment of the pet animals, has a much better lawn than mowing could ever accomplish.

WEARING OUT OF PEACH TREES.—It has been found by experiment, in France and England, that a peach tree left to itself, unpruned, dies out in about three years. They have established the rule, that wood that has once borne is incapable of doing so again, and by acting on this, preserve their trees healthily for a number of years.

A SECRET FOR HORTICULTURAL SOCIETIES.—Donald Beaton says he was at a loss to discover the great secret of the success of the Crystal Palace shows, until the last meeting, when he saw the Prince of Gardeners, Joseph Paxton, with the Princess of Beauty, the Duchess of Sutherland, on his arm. When beauty and fashion so honor the gardener, Beaton thinks the mystery of success is exposed.

SEQUOIA—WELLINGTONIA.—Dr. Lindley has recently written a letter to say that he has not yet seen reason to agree with Dr. Torrey, M. Decaisne, and Dr. Seeman, that *Wellingtonia* should be referred back to *Sequoia*. He says the reasoning of these botanists would be sound if it referred to such a tribe as Rosaceæ. It is most philosophical, he says, to distinguish coniferous genera by their foliage, their manner of foliation, as in *Pinus*, *Abies*, *Picea*, etc., and in this respect he claims it is as distinct as any of them.

It is now conceded that there is no difference in any other character; but on this ground it is certainly as distinct as some larches and spruces, which have little to divide them but the deciduous foliage of the former.

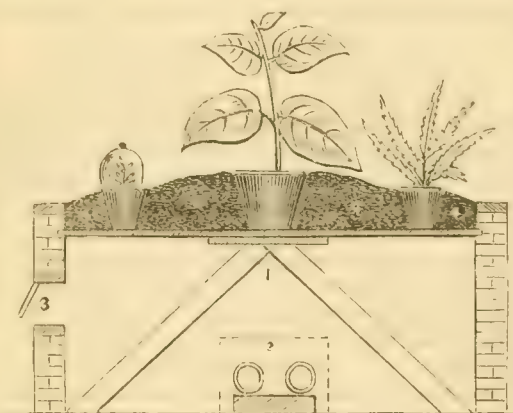
Foreign Correspondence.

From our English Correspondent.

SHEPHERD, ENGLAND, July 1, 1860.

I have in my former letters written to you of the many kinds of leaf plants that have become so generally popular here. The great drawback to the

cultivation of many of them has been that they are supposed to require a high heat to have them in perfection; but we are now beginning to find out that it is better to grow them in a more temperate atmosphere than is usually done. In fact, a warm greenhouse is where they do best, kept moderately moist, not wet. By stove cultivation they look well for a time, but gradually fade away after a few weeks. The same may be said of stove ferns. By-the-by, have you any account of the new variegated ferns, *Pteris argyrea* and *Pteris tri-color*, both of which are beautiful things, but are yet expensive. I find *Ænecochilus* thrive best in chopped sphagnum moss, and clean silver sand; for *Saracénias*, *Encephalotus*, etc., dry peat and sphagnum moss. The plants do best placed upon a warm flue, or, better, a tank, the pots plunged to their rims in damp moss, so that a regular warmth and moisture to the roots may at all times be insured, and the plant kept moderately cool. This is an important point in the cultivation of most stove plants. The best way I consider to insure this is, to have the stages enclosed with brick work, and arranged similar to the enclosed sketch, which will better illustrate my meaning. I decidedly object to hot water tanks in any shape whatever, as being very expensive, uncertain and irregular in their results.



1. Hot air chamber.
 2. Hot water pipes or flue.
 3. Trap-door to regulate the degrees of bottom heat required.
4. Moss, leaves or tan, etc., for plunging pots in, which should at all times be kept moist. The confined heated air will be found to afford abundance of bottom heat, to keep the moss, etc., at about 95 degrees, which, if kept constantly damp, will afford abundance of bottom and top moisture, without at all interfering with the heating apparatus.

Slate will be found a good material for the stage;

if large slate are inconvenient, shorter ones may be used by fixing stay timbers to support, as shown by slanting lines; or an occasional upright one, by taking the pipes or flue to one side.

[Our correspondent should come over here to see how to "cheapen" things, and we think he would be better impressed with hot water tanks. If our people get hold of a good principle, they soon find a way to bring it within the bounds of true economy. We know of a boiler and tank, 30 feet long by 3 wide, put up for less than \$20, and which would pay the owner if he had to build it new every year.—Ep.]

Horticultural Societies.

LIST OF OFFICERS OF HORTICULTURAL AND POMOLOGICAL SOCIETIES.

For the information of those who wish to correspond with the different societies, we furnish a list of the Officers of as many of them as we have been able to procure, and hope to be furnished with any that are omitted. We insert only those societies of a strictly horticultural or pomological, and not of an agricultural character.

HORTICULTURAL SOCIETIES.

Name of Society.	President.	Cor. Secretary.
Pennsylvania, Phila.	M. W. Baldwin.	William Saunders.
Massachusetts, Boston.	Joseph Breck, } Brighton.	Eben. Wright, of } Dedham.
Hingham, Mass.	Hon. Albert Fearing.	T. T. Bouve.
Mauzy County, Columbia, Tenn.	M. S. Frierson.	
Chicago Gardener's, Chester County, W.		
Chester, Pa.	J. K. Eshleman.	Josiah Hoopes.
New York, (City)	John Gresham.	Thomas Hogg.
Cincinnati, Ohio.	William Orange.	E. P. Crauch.
Montreal, Canada.	Jas. Ferrier, jr.	J. N. Davenport.
St. Louis, Mo.	William Glasgow, Jr.	Carew Sanders.
Cleveland, Ohio.	Dr. Edward Taylor.	
Buffalo, N. Y.	Jason Sexton.	William Coleman.
Poughkeepsie, N. Y.	S. M. Buckingham.	H. L. Young.
Morrisania, N. Y.	David Miliken.	Wm. H. Wilcox.
Genesee Valley, Rochester, N. Y.	Joseph Harris.	C. W. Seelye.
Brooklyn, N. Y.	Jno. W. Degrauw.	Edwin Scott.
Portland, Maine.	T. C. Hersey.	John W. Dana.
Kentucky, Louisville.	Thos. S. Kennedy.	Ormsby Hite.
St. Catharines, C. W.	James Taylor.	Thomas Shaw.
Richmond, Indiana.	John H. Hutton.	W. R. Smith.
Keokuk, Iowa.	A. Bridgeman.	J. L. Tewksbury.
Fort Wayne, Indiana.	J. D. G. Nelson.	H. C. Grey.
College Hill, Ohio.	Jacob Tuckerman.	D. B. Pierson.
Workingmen's, Philadelphia, Philadelphia.		Thomas Hargreaves.
Progressive Gardener's Society, Philada.	W. Saunders.	R. Robinson Scott.
Memac, Mo.	Dr. A. W. McPherson.	Edward Vaughan.
St. Paul's, Minnesota.	Alexander Buchanan.	L. M. Ford.
St. Anthony's Falls.	A. E. Ames.	J. S. Williams.
Pittsburg, Penna.	J. Knox, Pittsburg.	Thomas L. Shields.
York County, Pa.	E. Chapin.	Edward J. Evans.
Toronto, Canada.	Hon. G. W. Allan.	
Hamilton, Canada.	(?)	
Cobourg, Canada.	(?)	

FRUIT GROWERS' SOCIETIES.

Name of Society.	President.	Cor. Secretary.
Western New York.	B. Hodge, Buffalo.	C. P. Bissell, Roch'r.
East'n Pennsylvania.	Dr. J. K. Eshleman.	Thomas N. Harvey.
Downingtown, Pa.		Jennersville, Pa.
Missouri.	Norman J. Coleman.	Dr. L. D. Morse, Allen town, Missouri.
Anna, Union Co., Ill.	E. Harwood.	A. Balcock.
Georgia Pomological Society.	L. Berckmans, Augusta.	W. N. White, Athens.

Ohio Pomological, A. H. Ernst, Cincinnati, Ohio.
 Am. Pomological, Marshall P. Wilder, Dorchester, Mass.
 Conn. Grape Growers', Col. D. S. Dewey, Hartford, Conn.
 Wilmington, Del., H. F. Ashew,
 Am. Wine Growers' Asso.,
 Cincinnati, Ohio, Dr. N. B. Shaler, S. W. Haseltine.

AMERICAN POMOLOGICAL SOCIETY.

In our last we made room as we were going to press for a portion of the circular of the Pomological Society. We now give place to the other portion which we were then compelled to omit.

The Eighth Session of this Institution will be held in the city of Philadelphia, commencing on the 11th of September next, at 10 o'clock, A. M., and will be continued for several days.

This Society, the first National Institution for the promotion of Pomological Science, was organized in the year 1848. Its sessions have brought together the most distinguished cultivators of our country; its Transactions have embodied their various researches and ripest experience, and its Catalogue of Fruits has become the acknowledged standard of American Pomology.

Its example has created a general taste for this science, inspired pomologists with greater zeal, and called into existence many kindred associations. Its progress has been remarkable and gratifying, but it still has a great work to perform. Its general catalogue should, from time to time, be enlarged and perfected, and local catalogues formed, embracing the fruits adapted to each State and Territory of the Union. The last of these suggestions was made by the Chairman of the General Fruit Committee, at the seventh session of the Society, in the year 1858. This has been carefully considered, and is deemed worthy of special attention. It is, therefore, earnestly recommended that each State Pomological, Horticultural, or Agricultural Society, charge its Fruit Committee with the duty of collecting information, and presenting the same, with descriptive lists of Fruits adapted to their location.

The importance of this subject, and the increasing value of the fruit crop of the United States, call for a prompt and cordial response to this request—for a careful preparation of said list, and for a full and able representation, at the approaching session, from all parts of the country.

Held, as this convention will be, in a city easily accessible from all parts of the country, it is anticipated that the coming session will be one of the most useful the Society has ever held. Societies, therefore, in every State and Territory of the Union, and the Provinces of British America, are requested to send such number of delegates as they may choose to elect. Fruit growers, Nurserymen, and all others interested in the art of Pomology, are invited to be present—to become members, and take part in the deliberations of the Convention.

In order to increase as much as possible the interest of the occasion, members and delegates are requested to forward for EXHIBITION as large collections of fruit as practical, including specimens of all the rare and valuable varieties grown in their respective districts, and esteemed worthy of notice; also, papers descriptive of their mode of cultivation—of diseases and insects injurious to vegetation—of remedies for the same, and to communicate whatever may aid in promoting the objects of the meeting. Each contributor is requested to make out a complete list of his contributions, and present the same with his fruits, that a report of all the varieties entered may be submitted to the meeting as soon as practicable after its organization.

Societies will please transmit to the Secretary, at an early day, a list of the delegates they have appointed.

Gentlemen desirous of becoming members can remit the admission fee to THOMAS P. JAMES, Esq., Treasurer, Philadelphia, who will furnish them with the Transactions of the Society. Life Membership, twenty dollars; Biennial two dollars.

Packages of Fruits may be addressed to THOS. P. JAMES, 630 Market Street, Philadelphia.

MARSHALL P. WILDER, President, Boston, Mass.

THOS. W. FIELD, Secretary, Brooklyn, New York.

FRUIT GROWERS' SOCIETY OF WESTERN NEW YORK.

JUNE MEETING AT BUFFALO.

The Fruit Growers' Society of Western New York held its June meeting in Buffalo, on the 27th and 28th ult. The meeting organized by the appointment of S. H. AINSWORTH, of Ontario Co., as Chairman. The subjects taken up in order for discussion were:—

STRAWBERRIES.

"Which are the best six varieties for market, and the best six for family use, and which the best method of cultivation in each case?"

Mr. Herendeen, of Macedon, spoke enthusiastically in favor of the Albany. He thought it would produce twice as many quarts to the acre as Triomphe de Gand.

Prof. Coppock, of Buffalo, recommended Scott's Seedling, Gen-

see, and Longworth's Prolific. The former would produce as well as Albany.

Mr. Moody, of Lockport, preferred Jenny Lind because it was earlier than Albany.

C. L. Hoag, of Lockport, was well pleased with Wilson and the Pyramidal Chilian. Hooker, as a family berry, never was excelled, although rather tender. Pyramidal Chilian next to this, almost as productive as Wilson. Wilson is of fair quality when fully ripe. Never cultivated except to destroy the weeds, as deep stirring of the soil near the roots is apt to injure them, and injure the crops. The soil Mr. H. cultivated was a sandy loam.

Mr. Glen, of Rochester, had gathered 1000 quarts from 16 square rods of Crimson Cone.

Mr. James Vick, of Rochester, also praised Crimson Cone. He preferred growing Strawberries in hills.

Mr. Charles Downing's favorite was Triomphe de Gand. The ladies Pine from Canada, had a flavor like Burrs Pine, and was moderately productive.

Mr. Beadle, from St. Catharine, said Albany was productive there. Triomphe de Gand promised favorably.

Mr. Downing and Mr. Glen, said Albany died out with them after ripening one crop.

CHERRIES.

"What are the best six varieties of cherry for family use, and also for market purposes?"

Mr. Downing named Coe's Transparent for family use. Belle de Choisey better flavored, but poor bearer. Early Prolific and Belle d'Orleans here early. He recommended Kirtland's Mary and Great Bigarreau.

Prof. Coppock recommended for market Black Tartarian, Yellow Spanish, Elton, May Duke, Coe's Transparent, and Black Eagle.

Mr. Townsend, the Townsend Cherry. It is very early—had picked it the 7th of June. Always produces a crop. Liked the Black Tartarian, Elton, May Duke, Rockport Bigarreau, Downer's Late.

Mr. Glen recommended Belle de Orleans, Gov. Wood, Coe's Transparent, May Duke, Early Richmond, Downer's Late.

Mr. Hoag said Belle Magnifique was a fine Cherry—larger than Black Tartarian. It was particularly esteemed for bottling and preserving, keeping well, and retaining its flavor.

Mr. Downing thought well of Vail's August Duke, one of the most promising of the new cherries. Something like May Duke, but several weeks earlier. A seedling of Mr. Vail, of Troy. Recommended a list of Dukes and Morellos that it is best to plant for Canada. Late Duke, Royal Duke, Plumstone Morello, and Vail's August Duke.

Mr. Townsend said cherries grown on Mahaleb stocks are harder than on Mazzard, and much less likely to be injured in winter. They commence bearing at three years old. The size and quality of the fruit was much better on Mahaleb stock.

Mr. Hoag called the attention of members to a number of Seedling Cherries raised by W. P. Townsend, of Lockport, among them some of the best cherries he had ever tasted.

RASPBERRIES.

"What are the best varieties for market, and which the best for family use—hardiness and productiveness considered?"

Chas. Downing recommended Brinckle's Orange for family use; for market, the Hudson River Antwerp. All Raspberries should be laid down in the winter. This is the practice with all growers for market around New York.

Mr. Glen wished to add the Fastolf to those recommended by Mr. Downing.

Mr. Downing considered the Red American or Red Prolific the best hardy berry—the farmer's berry. It was like the Black Cap, but earlier and of a maroon color; belongs to the same family. He was not pleased with the Allen, although he wished to give it another year of trial before condemning it. It grew so many suckers that it is difficult to keep them subdued, and as a consequence the berries were poor. It was not to be compared to the Hudson River Antwerp.

Mr. Herendeen said J. J. Thomas had tried and condemned it.

Mr. Glen was satisfied that it was a variety they had in their grounds several years since, and had fought hard to exterminate.

EVER-BEARING KINDS.

Mr. Frost thought the Catawissa the best. It gave a good crop in the summer, and a crop again in the fall, continuing until October.

Mr. Downing inquired if the berries were perfect—with him they were very imperfect.

Mr. Frost said it gives a good crop of perfect fruit. To get a good crop, the old canes must be cut out, and the fruit obtained from the present year's shoots.

Mr. Glen thought well of the Doolittle Black Raspberry. They are larger, and not quite so seedy as the common Black Cap.

Mr. Peck, of Bloomfield, grew Black Cap from the woods, and could not tell the fruit from Doolittle's Improved.

Mr. Downing called attention to Vice-President French—a week later than most of the Raspberries. A fine large berry; plant vigorous and productive.

CURRENTS.

"Which are the best varieties, both for market and family use?"

Mr. Moody thought most of the White Grape Currant. Had

them last seen around the first of October. The Cherry Currant is about the same size, and an enormous bearer.

Mr. Downing said there was but very little difference in the fruit between White Grape and White Dutch. There was considerable difference in the leaves and habit of the plant. There was a new currant said to be twice as large as White Dutch. Versailles is a most desirable currant, the best of the new ones. The berry is as large as Cherry, and the bunches longer.

Mr. Frost said the Versailles was much grown, and was very popular around Boston. The berries were large, the bunches long, and the fruit very easily gathered.

GOOSEBERRIES.

Mr. Frost was cultivating, in addition to many English sorts, the American Seedling and Houghton's Seedling. The American is the most upright in growth, and is considered the best around Cincinnati and at some other places.

Mr. Downing said the American Seedling was known by different names in different localities. Mr. D. said, in answer to an inquiry, that Downing's Seedling was an improvement on Houghton's Seedling, a very fair berry, but like all new things, had been overpraised.

Mr. Hong thought pretty well of the Mountain Seedling.

SECOND DAY—MORNING SESSION.

PEARS.

"What variety or varieties of dwarf pears is it best to plant in an orchard of three acres? at what distance should the trees be planted, and what is the best mode of culture?"

Mr. Fish would set out equal numbers of Duchesse d'Angouleme, Virgaleu, Louise Bonne de Jersey, with some Bartlett's double worked.

Mr. Townsend noticed that when a vigorous growth was made one year, trees were subject to attacks from blight the next. Had cultivated between the rows, but proposed to let them go in turf for a while. Thought L. B. de Jersey the best pear to make money of. After this, Virgaleu, Seckel, Beurre Superfin, Bartlett (double worked), Tyson and Rostiezer. Would double work Bartlett on White Doynelle.

D. S. Manley, of Buffalo, said they could not raise a good Virgaleu in that section, neither on a standard nor a dwarf. For early pears would plant Rostiezer and Tyson. Liked Louise Bonne de Jersey, and would pick off fruit so that it be not allowed to bear until five years planted. Duchesse d'Angouleme should be sown in the same way. There is not a pear orchard west of Boston cultivated too highly.

Mr. Moody spoke highly of the Lawrence as a winter pear. It ripened without any trouble, just like apples in the cellar, and was about as good as the Virgaleu.

Mr. Vick said one would judge from remarks made that we are an afflicted people—that Pandora's box of Horticultural plagues must have been opened on our devoted land. While the fact is, we are almost exempt from all great difficulties, and have not yet learned to work, and fight, and conquer success. We have hardly begun to feel the truth of the curse—"thorns and thistles shall it bring forth to thee, and in the sweat of thy face shalt thou eat bread." We all know what a fuss the shepherd made about the lost sheep, and how he left the ninety and nine and went in search of the lost one. So it is with us; we come here, and every one almost has a dead tree about which a great ado must be made, but nothing is said of the ninety and nine that live, and flourish, and bear fruit, that sells, some for ten, and some for fifteen, and some for twenty dollars a barrel. When the country was new, fruit was raised without any trouble; but it sold for about nothing. Now it costs a little labor to grow good fruit, and it sells at a high price. Could we grow fruit as easily as it is grown at the tropics, then it would be comparatively worthless, and the effect would be seen on character.

Mr. Townsend remarked that with all his losses his balance sheet exhibited balance on the right side. He obtained a profit of from \$300 to \$500 per acre to land on which he cultivated dwarf pears. No business was more profitable than dwarf pear culture.

After some remarks on grape growing, and the passage of resolutions of sympathy with the President of the Society in his affliction, of thanks to the Mayor and citizens of Buffalo, the Society adjourned to meet in Rochester in September next, at the call of the Council.—Condensed from Rural New Yorker.

YONKERS HORTICULTURAL SOCIETY.

The first meeting of this promising young Society last month was a great success.

Mr. Bussard exhibited Victoria regia.

Mr. Ryan, gardener to J. Lillenthal, Esq., received a Silver goblet for the best general collection of plants.

Mr. John Lee, gardener to W. A. Hall, Esq., A. Campbell, gardener to Mr. Strange, P. Ryan, gardener J. B. Colgate, Esq., Thos. Ryan, gardener to W. T. Coleman, Esq., J. Downing, gardener to H. P. Getty, Esq., W. Tracy, gardener to A. Baldwin, Esq., M. Prendergast, gardener to T. W. Ludlow, Esq., James Slade, gardener to H. A. Small, Esq., A. Noonan, gardener to F. S. Cozzens, Esq., are amongst those who honorably distinguished themselves in the competition.

CHESTER CO., PA., HORTICULTURAL SOCIETY.

The semi-annual exhibition of the Chester County Pa. Horticultural Society was held in the Society's spacious hall, in the borough of West Chester, on the 15th and 16th days of June.

On account of the inclemency of the weather, the attendance of visitors was small; but the quality and beauty of the contributions equalled if not surpassed those of any previous exhibition of the society. The room was very tastefully decorated with wreaths and festoons of laurel and lycopodium, and the fountain, which has always been an attractive feature, was rendered more so by the covering of moss and flowers.

The greatest source of attraction appeared to be the fine display of forced grapes, from the collections of Dr. Geo. Thomas, Hoopes & Bisher, and A. Marshall, Esq. The display by Dr. Thomas numbered 13 varieties, embracing splendid bunches of Golden Hamburg and Bowood Muscat.

Strawberries and cherries were very poorly represented. The largest contributions were by Jno. Rutter and J. L. Darlington & Co. The recent hail storms completely injured the crops of many of the local contributors to this department.

The floral department was large and highly creditable to the growers. The specimen plants of Calceolarias, Begonia, Roses, etc., were remarkably fine.

The vegetables on exhibition were also fine, but were confined to two contributors.

GENESEE VALLEY HORTICULTURAL SOCIETY.

The houses of Frost & Co., and Ellwanger & Barry, seem to be running a neck and neck race in Rose culture. At a recent meeting they exhibited:—

Frost & Co.—Roses—200 H. Perpetual, 35 Moss, 45 Summer, 2 Yellow, 20 Prairie, 20 Bourbon, 15 Tea, 5 Naisette, 22 Banzel, Ac.; 455 sorts Roses; 2 Table Bouquets, 2 Hand Bouquets, 20 sorts Cut Flowers, Hardy Trees and Shrubs, Herbaceous plants, 41 sorts of Strawberries, 17 sorts of Cherries, 2 plants of Foreign Grape in pots, 3 Cucumbers.

Ellwanger & Barry—288 varieties Hybrid Perpetual Roses, 47 varieties Moss Roses, 85 varieties Summer Roses, 14 varieties Perpetual Moss Roses, 35 varieties Paeonies, 50 varieties flowering Shrubs, 100 varieties Herbaceous Plants, 26 varieties Petunias, 70 varieties Verbenas; 2 Hand Bouquets, 2 Table Bouquets, 47 varieties Strawberries, 15 varieties Cherries.

Rochester will soon have something else besides Pears to talk about at this rate.

D. M. Dewey made a great show with his fruit plates, and amongst the exhibitors we noticed the names of W. H. Barton, Prof. Cutting, Messrs. Jewell, C. J. Mills & Co., C. J. Ryan & Co., George Cooper, J. W. Briggs, M. Cornell, E. K. Bixby, W. T. Goodsmith, S. B. Kelley, Hooker Farley & Co., Dr. Ripley, Rev. T. R. Garrick, H. E. Hooker & Co., H. N. Longworth, Messrs. S. Moulson, D. Marsh, Mr. McGee, C. M. Seelye and Selah Matthews.

HORTICULTURAL SOCIETY OF COLLEGE HILL, OHIO.

At a regular meeting of this society, held on the 14th inst., the following premiums were offered by a unanimous vote of the society, viz:—

1st. For a new Seedling Strawberry superior, for market purposes, to any now grown in Hamilton county—a Silver Cup.

2d. For a new Seedling Rose of decided merit, a premium of One Dollar.

Competition open to all. The following members of the society were appointed a Standing Committee on awarding the above premiums: Dr. John A. Warder, North Bend, O.; Prof. H. N. Day, College Hill; John M. Millikin, Butler county, O.; C. E. Bobb, College Hill; E. G. Ricker, College Hill.

DAVID B. PHINNESS,
Cor. Sec.

ST. PAUL, MINNESOTA, HORTICULTURAL EXHIBITION.

Was held on the 3d of July.

THE HORTICULTURAL EXHIBITION was far more extensive and beautiful than could have been expected, and gave rich promise for the future. Strangers and citizens were equally surprised and delighted at the magnificence of the floral display, as well as the fine specimens of our fruits and vegetables.

Of Strawberries—Wilson's Albany, McAvoy's Superior, and Hovey's Seedling, were the chief kinds in favor.

Amongst the successful exhibitors, we are pleased to notice the names of our friends L. M. Ford & Co., Dr. Ames, Mr. Rohrer, Mr. Borup, John S. Prince, A. Buchanan, D. C. Green, D. C. Greenleaf, Mr. Selby, Captain Dana, W. Hansen, Mr. Clark, A. Schmidlin, Messrs. Hawke, W. H. Jarvis, Truman Smith, Mr. Moss, P. W. Nichols, W. Euden, S. Mitchell, gardener to Judge Hewson and Stephen Hewson.



Begonia xanthocephala (Lam.) Kunt.

Begonia xanthocephala (Lam.) Kunt.

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

SEPTEMBER, 1860.

VOL. II.—NO. 9.

Hints for September.



FLOWER GARDEN & PLEASURE GROUND.

Those who have had their land drained and subsoiled, have had good cause to give thanks during the almost universal drought of the present season. Going through an underdrained, shallow cultivated garden, recently, where the plants were in the last stages of "witheration;" the ground like one magnificent brick, and the cracks suggestive of the gulph down which the immortal Curtius leaped; "Why," asked we of the proprietor, "do not you drain and subsoil?" "Drain and subsoil," said he, with a look of pity at our folly, "is it not dry enough now? drain indeed!"

Well, Horticulture has its Rip Van Winkles;—one would suppose that, in these days, not one of these antique gentlemen existed, to whom it would be news to be told that drained ground was moist in summer. If you cannot drain at least subsoil; it is the next best thing.

"I do not care," said a neighboring nurseryman, who had but half an inch of rain in two months, to the writer, "if I do not get rain for two months more; it will not affect my stock much—the ground is subsoiled two feet deep," and his *growing* stock, though not without a murmur as if it preferred better things, bowed assent. Now is the time to look about and prepare for these operations, to commence with the first fall rains.

At the same time commence to plant Evergreens, and Deciduous trees. The former cannot be too soon in order. After the 15th of October, we would not plant Evergreens in this latitude, except where the greatest care can be exercised in taking them up with perfect roots. After all, "How to take up and plant a tree," is of more importance than "when best to do it." In transplanting Deciduous trees, do not wait for the leaves to fall, if the fall rains have ar-

rived. Where the leaves do not fall easily, cut away the shoots that bear them—wood, leaves and all. The trees should be severely pruned, at any rate. If you plant in the fall, a severe winter will sometimes damage your trees. If you choose spring, a hot, dry summer will equally injure them. Twenty years of close daily experience in horticulture, has convinced the writer that there is no choice of either season. A few trees may be always expected to die; but where the management is proper, there will be little difference in an average of years, between spring or fall.

Those who have no greenhouse, and yet are desirous of preserving many half hardy plants through the winter, employ *cold pits*. Choose the driest situation in the garden, and sink about five feet in depth. It is important that no water can be retained at the bottom. The pit may be of any length required, and about five feet wide, so as to accomodate six feet sash. The inside of the pit may be built up of boards, or, if something more durable and substantial is required, brick or stone. The body of the frame may be built up a few feet above the level of the surrounding soil, and the earth which comes from the pit be employed in banking up to the upper level of the frame. Shelving should be made for the inside so as to extend from the base of the front to nearly the top of the back, on which to place the plants in pots. In the space which will then be under the staging, hard wooded and deciduous plants, as Lemon Verbena, Fuchsias, &c., may be safely stored, while the more succulent kinds are shelved overhead. The plants to be preserved in such a pit should be potted early, and be well established and healthy before being pitted; much of success depends on this. The less water they can be made to live on without withering through the winter the better will they keep. Straw mats must be employed to cover the glass when freezing time commences, and when the thermometer is likely to fall below 20°, straw or litter should be thrown over. Board shutters are also excellent, as it keeps the snow out from the straw and litter, which sometimes makes the mats very awkward to uncover when we would like to give air. Very little light or air will be required through the winter when the plants are not growing. If a good fall of snow

cover the pit, it may lie on undisturbed for two weeks or more without injury. When a warm dry day offers the sashes may be raised if convenient, to dry up the damp. Many kinds of border plants can be kept over winter this way with little trouble.

GREENHOUSE.

It is a very good time to look around for soil for potting purposes. The surface soil of an old pasture forms the best basis, which can be afterwards lightened with sand, or manured with any special ingredients to suit special cases, as required. The turfy or peaty surfaces of old wood or bogs also come very "handy." A stock of moss should also be on hand for those who crock pots, in order to cover the pot-herd; moss also comes in useful for many purposes connected with gardening, and should be always on hand.

Plants intended to be taken from the open ground and preserved through the winter, should be lifted early, that they may root a little in the pots. A moist day is of course best for the purpose, and a moist shady place the best to keep them in for a few days afterwards. Any thing that is somewhat tender had better be housed before the cold nights come. Some things are checked without actual frost.

Those who have greenhouses, pits or frames, will now see to having any necessary repairs attended to. White-washing annually is serviceable, destroying innumerable eggs of insects in the war against which, the gardeners should always take the initiative; sulphur mixed with the white-wash is also serviceable. Powerful syringing is a great help to keeping plants clean, and should be frequently resorted to.

Propagation of bedding plants for another season, will now be progressing actively. Geraniums, and other things with firm wood, do best in sand spread on the open ground, with a glass frame partially shaded spread over it. A great benefit will be found in most cuttings if they are placed for a short time in slightly damp moss for a few days before inserting in the same, so that the wound at the base of the cutting may be partially healed or calloused over. Verbenas, and such cuttings, can be kept but a few hours, unless the wood is very hard. The harder the wood the longer will they do to keep so. Ripe wood of some things will be benefitted by keeping two weeks. All this must be found out by each propagator himself.

Ornamental annuals for winter flowering should be at once sown, not forgetting Mignonette, to be without which will be an unpardonable sin. Chinese Primroses, Cinerarias, Calceolarias, Pansies, Polyanthus, &c., should all be sown. Winter-blooming Carnations and Violets should not be forgotten. They are now essentials in all good greenhouse col-

lections. The Calla Ethiopica, old as it is, is an universal favorite, and should now be repotted, when it will flower through the winter finely. Oxalis, Sparaxis, Cyclamens, and such Cape bulbs that flower through the winter, should be repotted now. They are an easily grown tribe of plants, and should be in more favor. This is emphatically the Dahlia, as the next is to be the Chrysanthemum month. Dahlias have not grown much through the drought, and better not; now that September has come, they should be stimulated to grow, by copious waterings, and fine flowers will be the result.

VINERY AND FRUIT HOUSES.

Vines and other fruit trees in houses should have every chance afforded them of maturing their wood, which means that the atmosphere should be kept as dry as possible, and the pots or border suffered to receive no more water than is necessary to keep the leaves from withering prematurely. A common fault is however to keep the soil of fruit trees in pots too dry. A dry atmosphere is the chief point to attend to.

VEGETABLE GARDEN.

A few crops require attention South of Philadelphia, where the Cabbage will live out in the open air through the winter unprotected; now is the time to sow Early York. In planting out the ground should be thrown up like ridges east and west, and the plants set out on the north side of the elevation to escape the alternate freezings and thawing they would get on the flat surface. Lettuce may be sown and treated the same way. In this region and northward a few are sown and kept over winter under frames; but they are as well sown in a hot bed and forwarded early in spring; the fall sown ones often run to seed when spring transplanted.

Spinage and turnips should also be sown in rich ground.

Cauliflower, one of the most delicious of vegetables, is sown at this season, and where an abundance of leaves can be had are filled into such a pit as before described; with a few inches of soil thrown on, and the plants set out fifteen or twenty inches apart. As much air should be given through the winter as possible, and fine Cauliflowers will result.

Communications.

WORMS ON STREET TREES.

BY WALTER ELDER, PHILAD'A.

Our city has been in a filthy state for the past six weeks, caused by "them nasty worms" upon the shade trees. If any one could advise us how to get rid of

such a yearly pest, he would deserve the thanks of the community at large. Last year twelve of my trees lost the half of their foliage by the worms, and at the same, time were greatly injured by the borers, so much so that they lost a third of the bark of their stems, and two died. I procured a few pounds of whale-oil-soap, and made a solution of that and water, as strong as I could make it, and washed the trees with it twice over the same day, with a white-wash brush stuck upon a long pole; and in February last, I gave them a shortening in, pruning and again washed both stems and branches with the same solution; and this year they have not been touched by the worms. Now, could the smell of the whale-oil-soap prevent the insects from laying their eggs upon the trees when they became white butterflies last summer; or did the February washing choke the grubs as they were hatched last spring? If either of one or both washings have destroyed the young brood, it would be well for everybody to apply it, as the experiment is both cheap and simple, if any of your correspondents are skilled in Entomology, I would like to know their opinion upon this matter.

[We are glad Mr. Elder has introduced the subject, a just now the city government has under consideration the absurd proposition of appointing a board to decide what kinds of trees shall be planted, and what shall not. We have a holy horror of "good fat jobs;" and Bell, Breckenridge, Lincoln or Douglass, are much more likely to be sought after in such an appointment, than "them nasty worms." A few articles like Mr. Elder's, in our daily papers, would do more good than anything "a board" is likely to do.

As to the nuisance, so far as the public is concerned, the drop worm is the greatest; and these hang in cocoons, all over the trees in winter, and could be readily removed then, and destroyed at an expense of 25 cents per tree. Hundreds of poor men are ready for the work in large cities when there is nothing else to do. If the city councils would make an ordinance compelling tree owners to clear their trees of these cocoons, they would really effect something for us.

Choosing trees is bootless. Every tree sometime or other finds some insects ready to prey on it. Time was when the Silver Maple was free, and those kinds now unattacked may yet become so. "Poverty meets strange bedfellows," seems to be as true in the insect as well as in the human world. Our hope lies in warring on the insect, not on the trees.—Ed.]

TREATMENT OF BEGONIAS.

BY SCHUYLKILL.

It is not generally known that the new varieties of Begonias, cultivated for the beauty of their foliage, of which *B. Rex* is the type, are all remarkably strong feeders and require, not only very strong food to bring out their full beauty, but also to be deprived

of all their leaves but, say four or five, so that the whole nourishment of the plant shall be concentrated in them. Where this leaf pruning is not attended to, they become small and of poor color. A collection, exhibited a few months since, at the Pennsylvania Horticultural Society, by Mr. Pollock, were grown in lumps of peat soaked in strong manure-water, mixed with a compost of half old cow-dung, sand and a little loam. In addition to this, they were occasionally watered with manure-water. None of the plants were allowed to retain more than 3 or 4 leaves, and the beauty of the coloring, and immense size, attracted great attention.

LAWNS.

BY H. W. SARGENT, ESQ., WODENETHE, N. Y.

In your issue for August, there are some remarks on Lawns by A. F. G., in which, among other things, he remarks, "Grass will get poor and weak from constant mowings, in which case use wood ashes." This is excellent advice when you mow with a scythe, since as this requires the raking or sweeping up of the cut grass, it is very evident that something must be returned to the soil, when so much is taken off every ten days to two weeks.

I think the time not far distant when the scythe will pass away and be no more seen, at least for ornamental purposes. When a lawn is once carefully prepared and graded so as to present a fair smooth surface to the action of the Lawn cutter, there is nothing I have ever seen equal the perfection with which the machine works.

Shank's Lawn Cutter, which I imported many years since, did wonders in its day; but on uneven or unequal surfaces, it was apt to gouge the sod or occasionally to skip over depressions. Mr. Green, in his new patent, by the addition of three simple little wooden rollers in front of the beaters (so-called), resembling in size and appearance three blacking or beer jugs, has entirely remedied all this difficulty, by carrying or lifting the cutter over any prominent elevation, and also by preventing any pitching into the ground, which a sudden start of the horse often caused. This is the machine Mr. J. J. Smith refers to in the few words on the improvement of Lawn machines, in your August number. Mr. Green, by substituting an endless chain for cog wheels, has also done away with the noise of the revolution, and given him the excuse of calling his invention "The Patent Silens messor."

My neighbor, Mr. Swift, who adapted "Shank's" machine to this country, is preparing to add Green's improvements also, which will make his cutter all that can be desired. You were a little in error in the size and prices of Green's machine; they range from the "*Parvum Miraculum*," cutting 1½ inches, for la-

dies, to the largest horse-power, cutting 48 inches, and at prices from £6, £10 to £29.

Before mentioning some of the advantages of the machine, I will recall to your readers, and especially to one of its advocates, A. F. G., some of the disadvantages of the scythe.

In the first place. It is not every one who can use an English Lawn Scythe, whereas the most ignorant man or boy can use the machine.

Secondly. Lawns must be cut with scythes early in the morning and late in the evening, when the dew is on—inconvenient hours in this country, when so much watering for houses and plants is required at these times in our ornamental places. The Lawn Cutter, on the contrary, works better when the dew is off, after nine or ten o'clock, thus giving up to the gardener those early and late hours, so valuable in his department.

Thirdly. After grass is cut with a scythe, the most tedious part remains—the getting up. If raked, as is usual in the United States, a large portion must remain behind, from the coarseness of the rake; leaving a dead and decaying matter; preventing the full effect of the advantage of the cutting to be seen for two or three days, until the dry and woody part of the grass left by the scythe is surmounted by a new growth; for we must remember, in cutting with a scythe, the greener and more succulent parts are cut off, leaving them cut short, little more than stubble or woody stem, through which appears a mat of old fibrous decaying matter, the result of previous cuttings; each successive one adding its contribution of chopped hay—for it amounts to this.

Fourthly. As a large proportion of the grass which is cut every week or fortnight, manages to be got up, it is quite necessary, as A. F. G. says, to make some return to the soil by the addition of ashes and barn-yard manure; this latter not only producing a rank, coarse growth, but also introducing a variety and extent of weeds.

Now, by the proper employment of the machine, the following result is obtained:—A weekly mowing, with the weight of the roller, (some 700 lbs. in the horse size,) produces a low-flat growth of white clover, almost, apparently, without stems and with the leaves resting close and flat on the ground; this is and must be, in this country, the substitute for the English bottom, which is moss. Above and through this layer of clover comes up the slender and delicate spears, one to two inches high, of red top,—for after trying for many years every kind of lawn grass, I am quite satisfied nothing surpasses our road-side sod of white clover and red-top,—the passing of the machine every four to eight days over the lawn, either by man or horse-power, cuts off simply the spear of red-top and an occasional stray stem or leaf of clover,

which has straggled beyond (above) the cutting gauge, (about three-quarters of an inch), leaving the entire white carpet of white clover untouched.

These snips of grass are thrown, by the revolution of the beaters, into a box, and consequently none fall upon the lawn; and there is no necessity to employ either rake or broom. But as in the case of the scythe, as all growth is taken off every week, something to supply this consumption must be returned in shape of manure or food.

For some years after using my machine, though I was quite satisfied with the color of the lawn, and the beauty of its smoothness, yet I was disappointed in its softness; it was rather like walking over a billiard table than a Turkey carpet, which is the sensation one experiences in walking over a lawn cut every ten to fourteen days by a scythe. Some reflection and investigation led me to the conclusion that the softness of a lawn, cut by the scythe, was simply the result of the constant mulching it received from the decaying grass left behind after each cutting and raking; I therefore came to this result, that, by removing the grass box of the machine, and permitting the cuttings to fly in a sort of grassy shower, I should accomplish two important things—first, give an elastic soft bottom to the grass by the weekly mulching, which is so fine and so short, and one-half to one inch high, that it soon disappears instead of remaining an unsightly and hay colored brown for most of the season under the grass; but also by mowing frequently, the short clippings disappearing in two or three hours, I returned to the soil all it produced and nothing more. In other words, the materials abstracted from the soil, entering into the formation of red-top and white clover, were every week *entirely* returned to the soil, not partially, as in the case of scythe cutting, where the longest part is gathered and carried away, but the whole and entire produce of the Lawn, year after year, is returned to the ground free from weeds and stimulus, thus entirely superseding the necessity of any other dressing or manure; while increasing annually the depth, verdure and softness of the lawn, with an ease and success unparalleled, besides the great economy in time in having no grass to gather and carry away.

I have now tried this weekly grass dressing for two years with the most complete success, and am quite satisfied it is the only way to have, in this country, truly English Lawns. In England it would not do, since the weekly cuttings in their cloudy moist climate would not disappear; but in our hot, bright suns they all vanish in a few hours or so.

To do this, one must bear in mind the grass must be cut at least once a week, otherwise it would be so long that it would fall in piles and furrows, and by heating destroy the lawn underneath. It sometimes

may happen, even in cutting once a week, after very moist weather, the cut grass lies rather too thick in some places; if so, it must be scattered and dispersed with a broom.

CLERODENDRON BUNGEI.

BY AMATEUR.

About three season ago, I bought a plant of this then new plant, and planted it out in my garden, with other border flowers. I was much disappointed in finding that it did not flower, and left it out for Jack Frost to use his own pleasure concerning it. I took no further thought of it until next summer, I was mortified to find it coming up all over my flower beds worse than an Ailanthus. The same season I met with one in a friend's greenhouse, and though the flowers were not in good condition, its grateful perfume pleased me, and I took up one of my wandering suckers, potted it, and kept it growing and repotting, pinching it as it grew to make it bushy, until by the fall it was a dense bush, with about twenty good shoots and side branches, and the plant itself in a twelve inch pot. The leaves fell like those of a Catalpa with the first frost, and having no greenhouse, the pot was set in my cellar with Orange and Lemon Trees, and in spring taken out and set on the lawn with other new pots and tubs.

A few of the youngest tips had suffered. These were pruned off, and as the plant grew it sent out magnificent heads of rose colored flowers of a Cape Jessamine fragrance, that has kept my friends in a perpetual state of admiration, and myself in great good humor.

Some years ago I saw at our exhibition a *Luculia gratissima*, and was said to be very rare, choice and hard to grow; but I would not trade my *Clerodendron* for any number of them.

The only thing I dislike about it is its name. Though a great admirer of flowers, I am no botanist, and hate any thing that looks like a pedantic display of scientific terms. Cannot you, Mr. Editor, give us the common name of this beautiful plant, and make any suggestions for growing it even better than I have done, for I am sure under the best management it must be a glorious thing?

[The best way to treat this is to serve it as we would a Hydrangea. That is give it plenty of pot or tub room; pinch it off while growing to make it bushy, and after it has done growing preserve the wood, from which the flowers will proceed next year. In this vicinity it is usually grown under glass, and is not as showy as our correspondent represents it; but we are well satisfied that our gardeners are mistaken, and that if they treated it as a tub plant in the open air it would fully merit all the encomium our correspondent has bestowed on it.

It does not prove any hardier with us than the Hydrangea, and like it must have the shoots of the past season preserved through the winter from very severe frosts, or the plant will not flower.

We are sorry we can give but little relief to our correspondent's sentiment on the "hard names." The only common name it has is "Red Volkameria," which is not much of an improvement on *Clerodendron Bungei*.—Ed.

FRUIT GROWERS' SOCIETY OF EASTERN PENNSYLVANIA.

REPORT ON STRAWBERRIES.

The Committee for Philadelphia County, in presenting their first Report, would state, that most of the fruits herein alluded to have been grown in the grounds, or under the personal supervision, of one or more of their number, and that all have been personally tested by them.

They have not attempted a detailed botanical description of the varieties named, but have given only such marked characteristics, and peculiar qualities, as have seemed worthy of mention, aiming to report their general average character and value in this county. The local influences of soil, exposure, drainage, &c., have a marked effect upon the productiveness, hardiness and longevity of the plant, and the quality of its fruit, and tend to modify, very much, any description given of it in any particular locality.

Many kinds, known to be generally worthless, have not received their attention; other standard and good sorts, very generally accepted and cultivated, they have not included in their investigations. Their object has been to bring to notice and public acquaintance and appreciation, the comparatively new and less known kinds, to correct some errors in existing descriptions, and to place on their proper footing some over-praised varieties which are still cultivated but should be superseded by better sorts.

All the descriptions are based upon good and careful culture.

In classifying fruits for the "Market" and the "Private Garden" their respective requirements should be well understood.

For the "Market" the requisites are, *hardiness, productiveness and rapid reproduction of the plant; bright color, large or good average size, high flavor and firm flesh of the berry*, the latter quality being especially desirable, for distant transportation.

For "Private Gardens," *high color and firmness of flesh*, though very desirable, are secondary to the other qualities named.

AMERICAN VARIETIES.

H—Hermaphrodite. P—Pistillate.

CHILIAN PYRAMIDAL. H Fruit of a large size, firm flesh, deep scarlet color and excellent flavor;

plant of robust habit, bears young and well. A very promising kind.

CHORLTON H. Fruit large, pale scarlet, juicy and rich, though slightly acid, plant very robust and hardy, a good bearer and strong grower. Promises well.

CUSHING. H. Fruit medium to large size, pale scarlet color, and, when well ripened, of excellent flavor, juicy and vinous; plant robust, growth vigorous, a moderate and often profuse bearer, but very unproductive in wet ground. An excellent impregnator of pistillate varieties and pays well as a market berry.

FILLMORE. P. Fruit of large size, firm flesh, rich scarlet color, and excellent flavor; plant robust, a free, vigorous, grower, perfectly hardy, bears moderately. Is one of the most promising of all the new American varieties. It has been disseminated as Hermaphrodite; all that have come under our notice have proved Pistillate plants.

HOOKE. H. Fruit of medium size, tender claret colored flesh, deep crimson color, high and rich flavor, juicy and melting. Best in moist soils. Plant of strong habit, a free grower, only a moderate bearer, and quite hardy. The fruit is too dark and too soft for market purposes, but excellent for family use.

JENNY LIND. H. Does not confirm expectations as to earliness. Fruit of medium size, deep scarlet color, tender flesh, good but not high flavor; plant robust, hardy and moderately productive.

LADIES' PINE. P. Fruit of small to medium size, very light scarlet color, often nearly white, of *unsurpassed* flavor, melting, sweet and delicious. Plant vigorous and hardy, though somewhat disposed to burn, on heavy clay soils. Very desirable for private gardens.

LONGWORTH'S PROLIFIC. H. Fruit medium to large, light scarlet, very acid. Plant very productive, foliage thin, not hardy in summer. Unworthy a place in a choice collection.

LADY FINGER. H. Fruit large, very long pointed conical shape, rich scarlet color, remarkably firm flesh, of good, sweet, but not the highest flavor.—Plant robust, a vigorous grower; a very desirable fruit both for market and private gardens.

MARILANDICA. H. As far as tested does not maintain its early reputation. With us it has proved a very poor bearer. Fruit of medium size, firm flesh, crimson color, and good flavor. Plant quite tender, a weak grower, and the bloom often so abortive as to render it quite worthless. Many of our best growers have rejected it.

McAVOY'S SUPERIOR. P. Variable both as to yield and quality. Fruit large, bright crimson, tender flesh, melting and rich, but much disposed to knottiness.—Plant hardy, a free grower, but often very unproduc-

tive. Bloom frequently abortive, so much so that it is often difficult to find a single perfect berry in an entire bed.

PEABODY. H. Though hardly equalling, in size, the claims of its originator, this is one of the very best American varieties. Under high culture, in stools, 2 feet apart, the fruit has been grown, in the grounds of one of your Committee, at the rate of over 4,000 quarts per acre, from plants 4 years old, and single berries measuring $5\frac{1}{4}$ inches in circumference. The fruit ripens best in the shade and requires to be picked at the moment of maturity; if allowed to hang after ripe it becomes very tough and sour.—Size large to very large, color deep, rich scarlet, flesh firm yet melting, flavor saccharine and delicious. It demands and well repays the highest cultivation, and a thorough suppression of the runners while fruiting. As commonly grown, in crowded beds, it is very unproductive.

The following kinds are under trial and will be reported upon the coming year; Athlete (a supposed native) Golden Seed, Jessie Read, Scarlet Magnate, Downer's Prolific, Cutter, Randolph Pine, Pennsylvania, Moyamensing.

EUROPEAN VARIETIES.

CAROLINA SUPERBA. H. The largest and highest flavored of all the foreign sorts. Fruit large to very large, color variable from pale to bright scarlet, surface very glossy, bright yellow seeds quite prominent; flesh pure white, melting, juicy and delicious, shape long conical. Rather tender for transporting to market. Hardiness not sufficiently tested. A truly *superb* fruit.

COMTE DE FLANDRES. H. Fruit large, deep scarlet color, firm flesh, high flavored, juicy and melting. Plant very hardy, a vigorous grower, and sets runners freely. A very desirable sort for every collection.

DELICES D' AUTOMNE. H. Fruit medium to large in size, glossy, with prominent seeds, color light red at the base; blending into bright yellow at the apex, form varying from round to flat conical, flesh white, juicy, melting and truly *delicious*. The young plants are delicate and require a year to establish themselves. Whether this variety will prove a true autumn bearer your Committee are not fully prepared to state.—They commence bearing early in June and some of the vines growing in the grounds of one of our number, have now (July 15th) a second crop of blossoms and ripe fruit. They require high culture, a partially shady position, good winter protection, and thorough removal of the runners to improve fruit. As a general rule the fruiting vines show no runners and *vice versa*. Another year will be required to test this interesting and promising variety. Doubtless, like all

the exotic kinds, it yields better after the second year.

We shall probably be able to report, next season, upon several very promising seedlings of this plant.

EXCELLENTE. H. Fruit of the largest size, bright red, quite variable in form, flesh firm, very high flavored, and truly excellent. Plant strong, healthy, a rapid grower and moderate bearer and perfectly hardy. It well deserves its name.

MYATT'S PROLIFIC HAUTOIS. S. and P. This variety deserves some notice from the fact that it seems to require its own *Staminate* as an impregnator in order to produce a full crop of fruit. The male plant is a pure *Staminate*, utterly barren of fruit, but, when planted with the females in the proportion of 1 to 5 or thereabouts proves the best fecundator known for this variety. Its unproductiveness under ordinary culture of which many complain, is thus accounted for. Plant rather tender, especially in long droughts; stems and foliage quite delicate very bushy and of peculiar shape and color. Fruit of small to medium size, shape similar to a pecan-nut, dark maroon color, often nearly black; flavor unlike that of any other variety, combining the taste of the raspberry and mulberry, but more sprightly than either. Most persons dislike it at first, but come to be fond of it, as its peculiar taste improves upon acquaintance.

TRIOMPHE DE GAND. H. Fruit of the largest size, bright scarlet color, firm flesh, flavor high and rich, juicy and melting. Plant very vigorous, hardy both in winter and summer, a free, rapid grower, a good bearer and altogether a superb sort.

TROLLOPE'S VICTORIA. H. Fruit of very uniform and large size, round handsome shape, very light scarlet color, flesh melting, flavor rich and vinous.—Plant hardy, free growing, and under high culture in light, rich sandy loam yielding immense crops. In heavy clay soils it is less productive and the foliage is disposed to turn yellow and burn. One of the best of all the English sorts.

VICOMTESSE HERICART DE THURY. H. There is no Strawberry known to your committee which so nearly fills every requirement as this comparatively new French variety. Fruit of large size, variable in shape from broad conical to coxcomb, bright scarlet color, very firm yet melting flesh, flavor saccharine, sprightly and delicious with an agreeable fragrance. Plant healthy, a strong grower, perfectly hardy against the winter's frost and summer's sun; sets runners very freely, which strike root at once, and grow rapidly up into stout healthy crowns. Deserves a place in every collection and promises well for the market garden.

The following foreign varieties are now under probation; Ajax, Crimson Queen, Exhibition, Kitley's Goliath, La Reine, La Constante, Magnum Bo-

num, Marquise de la Tour Maubourg, Nicholson's May Queen, Oscar, Scarlet Rock, Vilmorine (Madame Vilmorin?) an autumn variety of high repute in France, Wonderful, and Wizard of the North. The last named kind has been fruited in this city, under glass, and produced berries of very large size and excellent flavor, similar to that of Boyden's Mammoth. All the other varieties named have also been fruited by ourselves or others, but mostly on plants too young to give a fair sample of their size and quality.

J. E. MITCHELL,
R. CORNELIUS,
A. W. HARRISON.

[As the above report has not yet been presented, it is not of course the adopted opinion of the Society. But as the season of planting is at hand, and believing from the knowledge and care bestowed on the subject by the distinguished amateurs whose names are signed to the report, that it would be a useful guide, we applied for a copy in advance, to which the chairman kindly acceded. As it has not yet been reported, it is of course so far but the individual opinion of the members of the Committee, but loses none of its value on that account.—ED.]

THE SEASON AND GRAPES IN GEORGIA.

BY P. J. BERCKMANS, ESQ., AUGUSTA, GA.

Our summer has been uncommonly warm, for a week the Mercury went to 106 deg. This weather has been a fair test for all tender plants, and in consequence I have lost a considerable quantity. Fruit is abundant, grapes especially; I have now ripe.—Brinckle (July 1st) Delaware, Rebecca, Marion, Maxatawny. Emily, (this, the true variety, surpasses Delaware in size of berry and bunch, and resembles it in color.) Concord, Hartford Prolific (June 25), earliest of all but a very foxy tough skinned fruit.—Lenoir, Southern Isabella, and some ten foreign, among which I rank in the first line. Chasselas Rose de Fals-loux, Chasselas Rouge Musque, Chasselas de Fontainbleau, Fig Grape and Muscat Caillaba Noir. I have had very good success in raising foreign grapes in the open air. In fact there is little difficulty with them here, provided the suitable varieties are cultivated, and the pruning judiciously done.

[The above in a private letter from our friend, was not intended for publication, but as it contains some valuable information, we are assured he will pardon the liberty we have taken in publishing it. ED.]

THE NEW MODE OF PROPAGATING.

BY H. J. HOWLAND, WORCESTER, MASS.

A neighbor showed me in his garden this morning, a bundle of rose cuttings with well formed callus, just ready to put out roots, which have been buried,

horizontally, some two inches deep, in the loam in his garden, for about a week. He discovered this mode of striking cuttings accidentally last spring, having inadvertently left a lot of Diana grape cuttings buried as above, for four or five weeks longer than he intended. He then took them out, expecting they were spoiled; but found them well started, and on setting them out in the open garden, they have all made a fine growth.

This seems to be even more simple and easy of practice, than any method you have published to produce the same result.

IS TARTAR ESSENTIAL TO THE VINOUS PROPERTY OF THE GRAPE?

BY DR. J. R. HAYES, WESTCHESTER, PA.

Mr. Bright in his little work on Grape culture, lays particular stress upon the use of Tartaric acid in the successful cultivation of the Grape, and has prepared a fertilizer with Tartaric acid, &c., in combination.

I am disposed to give him all due credit for the use of the Phosphates, Carbonic acid, &c., but it baffles my chemical knowledge to see what effect is derived chemically to the advantage of the grape in the application as a fertilizer of Tartaric acid.

With your permission, Mr. Editor, let us look into the matter, and see the position Mr. Tarter holds in the grape. Let us look in the first place at the elements contained in the grape juice—two of these will suffice for the present, *sugar* and *acid*. We see that the *sugar* by Katalysis in the process of fermentation is broken up into Alcohol, Carbonic acid and water; the *acid*, before a part of the fluid juice, is now by the formation of Alcohol, etc., from the sugar, partly held in solution in the vinous liquid, and thrown down in the shape of an insoluble compound *Argol*. Now suppose the Alcohol to be of high standard in density for wine, it will hold but a small part of the *acid* in solution, and the bulk of it will be precipitated, and the resultant wine will be of good vinous or alcoholic quality, without acescent character. Suppose again the Alcohol to be of *low* standard in density for wine, (the liquid being watery,) a greater quantity of the *acid* will be held in solution, and less precipitated than in the previous case, and the resultant wine will necessarily be deficient in vinous quality and acescent. It cannot be denied that circumstances modify the density of the Alcohol during the process of elimination from the sugar, as the presence of water in excess, in the bulk of price; but we have nothing to show that the acid or *tartar* is essential as is apparent to the vinous quality of the wine. Surely the wine, *per se*, has nothing to do with the *Argol* deposited; if the Alcohol in the wine be of the right density it will hold only *so much* tartar

in solution, the rest will be deposited without the quality of the wine affected. If much tartar is contained in the liquid in solution after fermentation, the inference is plain that the wine is poor in Alcohol.

The fact that large quantities of *Argol* are deposited in the wine cask is proof positive of its existence in large quantities in the grape. The same disturbing causes that would lessen the amount of grape sugar in a given bulk of *must*, and thereby its resultant Alcohol might also lessen the tartar, but as long as there would be sufficient for the alcohol of good wine density to hold in solution, there would be no use for more to make the wine better. But I cannot imagine a grape *must*, under any circumstances, be wanting in tartar. On the contrary, it exists *largely* under all circumstances as an essential element, as well in adversity as in prosperity, in reference to the cultivation of the grape. Its presence is as constant as water is on the juice, but while the wine is dependent indirectly upon the water for its quality during its Katalysis, the tartar rests upon its oars, holding its strong forces in reserve, using them partially only as occasion requires.

Strong stimulating manure to the vine gives us a larger crop, and larger fruit for the table, but does not make good wine, because the same bulk of expressed juice contains more water and less sugar than is essential to the making of good wine.

That the vine eliminates from the atmosphere and natural soil, by its own instinctive process, more tartar than is necessary for the making of good wine, cannot, I think, be denied. If not, why do we have the *Argol* of commerce.

Let us suppose that the vine takes up Tartaric acid from a special fertilizer—other than what it receives inherently, and should give it in excess to the fruit with the addition of rich manures, we would obtain large fruit, juicy to a nicety, excellent for the table, but when converted into wine—poor in Alcohol, but depositing *Argol* largely, and no one will contend that the wine is better for having in solution much of the acid in consequence of the want of density in the Alcohol. I cannot see what benefit Tartaric acid is to grape soil, under any circumstances. I admit that the *fruit* would be better under the circumstances for table use, for when the watery portion of the grape is increased under rich cultivation a corresponding increase of acid would be necessary. But when we come to make wine we find other laws prevailing as we have seen. I contend, therefore, that it is *not* essential in a *wine making* point of view, for its elimination and absorption depend wholly upon the density of Alcohol, and the Alcohol in density is dependent upon a given number of equivalents of grape sugar in a given bulk of expressed juice. In excess

it would lessen the sugar and injure the vine. Did the Tartar change by Katalysis the case would be different, but it is the same before and after fermentation, omniscient is all its stages. Now nature gives us an *excess*, but not at the expense of sugar under proper cultivation. Shall we increase that *excess* by special legislation, and thereby injure the number of equivalents of sugar in our cask of vinous liquids?

In our ardent zeal for fertilizers let us not overlook nature—she is a good instructress in all things, and it seems hardly probable that she would throw away her Tartaric acid in the shape of Argol so profusely, were it needed as the most essential property for wine.

ORIGIN OF THE LINCOLN AND ISABELLA GRAPE.

BY DR. CURTIS, HILLSBORO' N. C.

We are indebted to the author for a copy of his recent work, from which the following will interest our grape growing readers:

"I learn from Dr. Hunter, of Lincoln, that the Lincoln Grape was discovered about the beginning of this century, near the junction of the South Fork and Catawba, by Dr. Wm. McLean, and that he transplanted the whole vine near his house. From this stock Mr. John Hart, of Mecklenburg, derived his, which is still in vigorous existence. From this last, Dr. Butt, of Lincolnton, obtained his cuttings, and sent some of the fruit to Longworth, who gave it the name, now most in use, of the *Lincoln Grape*, though it was previously known as the *Hart Grape*, and *McLean Grape*."

"A foreign origin has been claimed for the Isabella, but this is an evident error, proved in the fact that seedlings of the Isabella sometimes revert to our Fox Grape in every particular of leaf and fruit. This has been tested by Mr. Caradeuc, of South Carolina, as I learn from Mr. Ravenel. But what is regarded as a scientific demonstration of its American origin, is the fact that its seedlings sometimes have barren stocks, like all our American species, which is not the case with European Grapes. Besides, the Isabella, in its specific characters, comes nearer to our Fox Grape than any other.

Dr. Hunter, who has given much attention to the history of our Grapes, has communicated most of the following items in regard to the Isabella. Dr. Laspeyre was probably its first cultivator in the United States, probably as early as 1805, as he sold it in the Wilmington Market in 1810. Judge Ruffin cultivated it in Orange County in 1811, under the name of *Laspeyre Grape*. It is a tradition that Gov. Smith brought it to Smithville in 1809. About the year 1810 Mrs. Isabella Gibbs took a rooted cutting from Gov. S's garden to Brooklyn, New York, according

to a current account. According to Laspeyre, she got the vine from *him*. These statements may, in a sort, be reconciled, if Gov. S. obtained *his* stock from Dr. Laspeyre. In 1819, Gen. Swift bought the Gibbs place, and it was there the elder Prince first saw and obtained this Grape, which he named the *Isabella* in compliment to Mrs. Gibbs. Dr. Hunter has some of these statements from Gen. Swift. Dr. Laspeyre was under the impression, that this, which he called the *Black Cape*, was one of the vines which he brought from St. Domingo, but it was probably the accidental introduction of an American among his foreign stocks. Dr. Hunter seems to be of opinion, that it came to the Cape Fear region from South Carolina, according with the tradition mentioned in Dr. Hawks' History."

MARKING DRILLS, &c.

BY C. F. E., RAVENSWOOD, N. Y.

A few days ago, I visited a well kept garden in our neighborhood, and there saw a man tracing lines for planting, with a stick along a line, (rope) stretched for that purpose. This reminded me of the fact, that I have never seen that simple and easy mode of tracing lines practiced in this country, which is of course known to you and many of your readers, but certainly has not yet been hit upon by as many others, and which consists in *sawing* a trace in the freshly prepared ground with a rope.

Would you not think this simple trick practical enough to mention it in your really practical *Monthly*?

The way I practice is this. After the distance of the rows is marked on both ends, two men take a rope of the length of the rows to be traced, stretch it tightly over two opposite marks with their right hands, and with a short stick in their left hands press it gently down on the ground, to prevent its shifting its position. Three or four sawings with their right hands, now make a perfectly straight mark. By taking a stouter rope and sawing a little longer, the traces can be made deep enough to sow fine seed in. On strong or roughly harrowed ground, a chain must take the place of the rope. Sure this mode of tracing takes two men to do it, but they can trace twenty rows while one man traces one with a stick, as I saw it done in a well kept garden.

[A simple fact not known generally, and will be very useful to many. Should be glad to have further hints from C. F. E.—ED.]

HYDRANGEA VARIEGATA.

BY L., BROOKLYN, N. Y.

I have been interested in the several sketches by yourself and correspondents, of the many new leaf plants that have of late swarmed into existence. I think it is a move in the right direction. There

should certainly be as much interest felt in graceful forms, especially when combined with striking colors, as in showy and gaudy colored flowers.

Unfortunately most of these fine foliaged plants are not adapted to out door cultivation, so that when we do meet with one it is the more valued. The *Hydrangea japonica* is one of these plants. I failed to grow it well for a year or two, but now I think I understand its wants. I do not wish for any thing better in its way.

I bought my plants in 1853, from our enterprising neighbors, Parsons & Co., for the neat little sum of \$2—a dollar a leaf, my plant having just that many on it. I petted and potted it, tried it in a frame and in the open air, but all to no purpose. It was no larger in 1854 than at first. After trying it in various ways for several seasons with more or less success, I potted in rich garden soil, in a large pot, and set it out under the shade of some Pine trees, with a saucer of water under the pot. Here for the first time it grew freely, and was quite pretty. I have suffered it to remain in the pot the two past seasons, and each season it looks more interesting than the past. The white variegations is clearer, and the green more defined, and the whole contrast particularly striking and pleasing.



I have come to the conclusion that very rich soil does not suit it, nor does an open sunny situation. Nothing that I have pleases me so much, and I can recommend it to the general cultivator, as a plant that he would not miss after once having it.

[We are glad attention is called to this beautiful plant. We saw one the past season on the grounds of Harry Ingersoll, Esq., near us, that enlisted our warmest admiration. This also was in a pot, growing under the shade of a large Chestnut tree, without the water saucer our correspondent recommends. We insert in the article an illustration that we happen to have by us of the same plant, to give those of our readers who have not seen it an idea of its general appearance. It is a variety of *Hydrangea japonica*, and was raised about 10 years ago, by Mr. Van Houtte, the well-known Belgian Horticulturist.—ED.]

GROWTH OF THE DELAWARE GRAPE.

BY CUTTER & BRO., BEVERLY, ILLS.

Last Spring a year ago we got forty cuttings, tried them in several ways, but found grafting the best.—Those on small pieces of root grew from two to four feet. What were put on one and two year old seedlings, without moving them, made from twenty to 80 feet of vine the first year.(1) Besides bearing some fine clusters of fruit. Now our vines are only yearlings and were, like all other Delawares, very closely trimmed to get the grafts; but no other kinds are full enough. The largest we left about four feet high with two branches of about four buds each; we left it to be swept about by the winds without even a stake to support it, until about the 10th of June; we then tied it out, and now it has on over a peck of as fine smooth clear looking clusters as you would wish to see. They stand on common prairie soil, sloping a little to the north, never was manured, nor worked over a foot deep. We feel confident that grafting is not only the easiest but the best way to raise grape vines, they grow faster, bear younger, and are a great deal harder than vines grown in any other way. Our last dry winter was very hard on

grape vines. A good many of the roots of our hardiest varieties were found this spring to be dead, but not a single grafted one was injured.

[(1) We understand our correspondent to mean all the shoots collectively—not that one shoot extended eighty feet. The Delaware has been found well adapted to our locality, and this seems to speak well for Illinois. We should be glad to hear of this and the other scarcer grapes from other localities.—Ed.]

TOWN AND COUNTRY RESIDENCES OF THOMAS WINANS, ESQ., BALTIMORE.

BY K. R. D.

Mr. Editor: On a recent visit to Baltimore, I was favored, through the kindness of a friend of Mr. Winan's, with an opportunity of visiting these princely establishments.

The city residence is situated in Hollins Street and in the centre of the most beautiful part of the city.—It occupies nearly an entire block or square of ground, and is handsomely enclosed with an iron railing; the grounds are laid out with taste, and planted with a great variety of rare trees, and shrubs. The collection is particularly rich in the new evergreens, many of them considered by us, only a hundred miles further north, as extremely tender, but here flourishing with the greatest luxuriance. This result is no doubt attributable in part to the protection afforded by the surrounding houses and fires. The entrance to the grounds is through a large and handsome iron gateway, at the side of which is a neat porter's lodge.—I was informed that on one day of the week the public are admitted, and if this is correct, Mr. W. deserves the thanks of the whole community. The house is situated nearly in the centre of the grounds, and is large elegant and commodious, but with an air of home comfort about it, seldom met with in houses of so large a size. One of the most beautiful features about it is the conservatory which is quite extensive and which communicates with the drawing room. This conservatory is kept well supplied with flowering plants from a range of thirteen houses or pits built side by side somewhat on the ridge and furrow principle, and are each about 35 by 17 feet, and their aggregate or total length would therefore be upwards of 450 feet. Each of these houses are as a general thing, devoted to the growth of a single genus or of kindred tribes of plants that require nearly the same treatment; to this cause, added to the skilful management of the gardener, Mr. Campbell, may be attributed the complete success in plant culture which has been attained here.

House No. 1 Is devoted entirely to the culture of grape vines in pots.

No. 2 A moist stove in which amongst other stove

plants were a number of fine specimens of *Musa Cavendishii*.

No. 3 Devoted entirely to Heaths and Epacris, which looked remarkably healthy.

No. 4 Azaleas, Rhododendrons, &c.

No. 5 Camellias.

No. 6 Azaleas a very rich collection of the new dwarf and double varieties.

No. 7 Orchids, ferns and mosses.

No. 8 A mixed Greenhouse.

No. 9 Mostly filled with Begonias including the new foliage varieties.

No. 10 A mixed hot house.

No. 11 “ “

No. 12 A propagating pit.

No. 13 Pine apples, and for forcing Asparagus.

Having had for some time an idea of erecting a house on the ridge and furrow principle, I thought this a favorable opportunity of ascertaining whether much inconvenience was suffered from the snow collecting in the furrows, and I understood Mr. Campbell to say that they found it necessary to have them cleaned out after every heavy fall of snow. If any of your readers have had any experience with houses of this kind I hope they will furnish it for the general benefit. The heating apparatus which heats not only this large range of pits but also the dwelling, conservatory and an immense vinery 300 feet in length, is well worthy of notice. It is a large tubular steam boiler somewhat of the shape of a locomotive boiler. The steam is conveyed through the pits under the walks in three inch cast iron pipes covered with iron grating. Some of the houses that require the most heat have several return pipes. The heat in each house can be very nicely regulated by a stop cock. The steam pipe or main which is 8 inches in diameter after heating the pits passes on through an underground tunnel or culvert to the dwelling, a distance of some three or four hundred feet! And from thence through a 3 inch pipe, and another tunnel to the vinery about 200 feet further. The radiation of the pipe in passing through these tunnels is not so great as one would suppose. Mr. Campbell informed me that during the coldest winter weather, the apparatus did not consume more than four tons of anthracite coal per week which, considering the immense duty it has to perform, struck me as being quite moderate. It has given no trouble since it was first erected which was several years since.

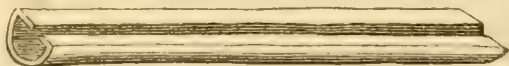
After examining the house, grounds and plant houses I was taken through the new vinery which is a very extensive lean-to house built against a high wall which forms one of the boundaries of the property. It is over 300 feet in length, 18 feet wide and from 8 to 12 feet high to the front plate, and about 18 feet high at the back. It is divided into several

compartments and is very judiciously planted with a great variety of exotic grapes. There is also another forcing vinery on the place about 75 feet long, and 30 feet wide in full bearing.

I regretted extremely that my time would not admit of a more minute examination of this very interesting place, one which is a literal exemplification of the expression *rus in urbe*, for when you are in the centre of the grounds, surrounded by dense masses of shade, you cannot realize that you are in almost the centre of a large city.

The next day I drove out with my friend to Mr. Winan's country residence, which from his long residence in Russia, and his consequent partiality for that country, he calls *The Crimea*.

It is situated on the Franklin turnpike about 5 miles from the city, and in a most picturesque country, a fine stream of spring water runs through the place, which has been judiciously employed in furnishing lakes and cascades, and in supplying one of the most complete bathing establishments in the country. It embraces a large swimming tank, douche, shower and vapor baths. Shortly after entering the place you cross the stream on a picturesque bridge and then by a winding carriage way which is carefully graded, you at last reach the house which is situated on a lofty eminence, commanding a glorious view of the adjacent country. The house is built in the style of a Russian villa, and is quite unique. It is three stories high with noble verandahs to each story, around three of its sides, so that each room and chamber has casement windows opening on to one of these verandahs. From the house, branch off in every direction most tempting walks and drives through the park like scenery. Some idea of their extent may be derived from the fact that the walks on the estate are six miles in length, and the drives over three miles. These walks for the most part are constructed in the most durable manner, bedded in stone and gravelled, and if on a hill where they are subject to wash in hard rains, are provided with iron gutters crossing them nearly at a right angle. The annexed drawing will give a better idea of their shape



which is somewhat like an iron pipe with a small piece taken out of its whole length. This allows of its being easily cleaned out if it becomes obstructed. When a walk is dug out of the side of a hill, a gutter is constructed of ordinary stone laid flatways and a mixture of coal tar and sand poured in to the interstices hot, which binds it all together and is very durable. The able and polite superintendent of the

farm, Mr. John Wilkinson (formerly principal of the farm-school at Germantown), informed me that one barrel of coal tar, which costs at the gas works one dollar, will answer for one hundred feet of this kind of gutter, one foot wide.

Mr. Wilkinson showed me through the stables, which are very extensive and fitted up in the most durable manner, most of the fixtures being of cast iron. The stalls were filled with a great variety of fine horses, amongst which were some noble Russian stallions and mares, with most unpronounceable names. The dairy was next visited, it is fitted up with marble shelves and troughs or cisterns, filled with spring water in which the milk pans are immersed. In passing through the pleasure grounds we were struck with a mode of getting rid of the loose stones with which a portion of the place abounds; they are piled up into pyramids, cones, pillars and rectangular forms, and ivy and other creeping plants planted around them which soon cover them, thus forming very beautiful and picturesque objects. We also met here with an apparatus which we have seen in Europe, but never before in this country; a number of small boats, furnished with sails and with seats for four persons, are arranged on a revolving frame-work of wood and the wind acting on the sails, causes them to revolve on the same principle as a windmill. My time and your space will not allow me to do justice to this spot, so I must conclude by recommending your readers, who are fond of the picturesque, by all means to endeavor to obtain access to it.

Allow me before I close to express my regrets that, in my letter from Washington describing the Conservatory at the President's House, I have done injustice to the gardener, Mr. Watt, who I am happy to find is a very deserving man, and competent gardener. At the time I wrote I did not know of the many difficulties that he has had to encounter. My visit, as I stated, was a very hurried one, and my opinion was formed from appearances only.

GRAPES.

BY OLIVER TAYLOR, LOUDON, VA.

A N. Y. Fruit grower, recommends not to plant the Rebecca for vineyard culture, but to put it in a sheltered place in the garden. I have one vine in such a place, and after it put out some six inches it seemed scalded just like the Catawbas close by, and stopped growing for a month or so almost entirely, but finally recommenced; whilst those on a north hillside were not so affected. I have planted 1000 Rebecca grape vines, and of course must be set down as having the grape fever; yes, and I have some ten bunches on six vines set out last year. I think the inveterate habit of taking bunches at the expense of high quality, is the cause why our grapes rot so

much. Heavy winter pruning to accomplish this, causes too great an extension of young tissue in the growth of the berry during cloudy days, and the fruit being first to suffer, falls a victim. Our excessive heavy rains, glowing bright sunshine and drying winds, alternate so quickly, that none but plants used to such changes can well withstand it, unless we give them the advantage and not the disadvantage of art. Friend G. P. Norris of Wilmington, does not discourage any one from planting a single variety known to be good by any one, even such an one as A. J. Downing whose opinion on seeing the original vine is certainly worthy of regard. I do not suppose all the thousands of fruit trees or vines we now rate high, to be the best that might have been planted; but plant all, is my motto, if we ever want an abundance of fruit, which every year seems to be more and more needed, and of all fruit, the grape and blackberry stand prominent in certainty of crop, and abundance for outlay; and doubtless not many years will pass e'er the grape will be the first fruit in the land. Not for its wine would I say this; for its intrinsic value is but little known when we use only its juice. Cooked as a marmalade, with the skins and seeds strained out, either alone or with other fruits, it forms a very wholesome and palatable sauce, which keeps easily put up air-tight, and if so kept, the sugar forms into crystals that give it a very sprightly flavor. From the numberless wild varieties that throng our wilds, we may well anticipate the art of hybridizing will soon give us varieties that will ripen from mid-summer to winter, and be furnished fresh most of the year on our tables. Therefore let us grow all, and get every lover of good fruit who has a new grape to bring it to Philadelphia next Congress, and show it to the public. Grapes have rotted much here this summer, more than usual, but the Clinton is not affected, nor are our wild varieties ever affected in that way. The thermometer here last winter was 16° below zero, killing more tender things than our two hard winters previous 57° and 58°.

I wish to ask one question, is it correct to call a grape that has come from seed of any foreign variety when grown in this country a foreigner, when we call all apples and pears that come from foreign seed, grown in this country, natives? I call the Rebecca a native, for instance, and will not second Prince when he says, it is as tender as the Chasselas, from which it might have sprung.

[There is but one *species* of apple, and but one *species* of Pear. Of these we have American *varieties* and Foreign *varieties*. Variety has reference to the the country where it originated; no confusion can here arise.

In grapes there are several *species* some of them

American, and one Foreign. A seedling raised here from a foreign species—Brinckle for instance—is an *American variety* of a *foreign species*. A child of Sambo, would be an American of the African species (or variety,) and that of the Governor of Virginia, an American of the Caucasian or some other stock.

We see no difficulty in the idea, and are surprised at the number of inquiries we receive in relation to the subject. There are American seedlings of foreign species, and American Seedlings of native species, and the fact is as useful in correct grape classification as in classifying the Blacks, Whites or Indians, who inhabit this continent.—Ed.]

HINTS TOWARDS THE DISCOVERY OF THE TRUE THEORY OF PROPAGATING.

BY JOHN WATSON, ROCHESTER, N. Y.

It has long been customary with gardeners, previous to planting cuttings of a succulent nature, to leave them, for a time, in a *dry* shaded situation, in order that the superabundant sap may be evaporated, and the wounds nicely healed over. On the other hand, the practice recommended in the *Monthly*, of putting grape vines eyes in a *damp*, shady place, is an excellent preparatory process in the propagation of things of sterner stuff. But a cutting of a medium texture—a Rose cutting for instance, can withstand neither of those modes of treatment; it will quickly shrivel in the one case, or blacken and die in the other. Clearly then in order to obtain that great desideratum—the development of the callus, recourse must be had to at least three different modes of procedure, according to the nature of the subject under treatment. Is this, then, as it should be, or is it not more reasonable to suppose that this peculiar exudation, Nature's own healing salve, would be developed in all cases alike, and under one particular set of circumstances, provided the proper medium were once thoroughly understood?

An approximation towards this end has at length been made. Common sharp sand dried until it will stream through the fingers like that in a sand-glass is the article employed, and a rough wooden box, or any thing tight enough to contain so fickle a substance, is all the apparatus required. The vessel may be filled brimful of sand and cuttings in alternate layers, and must then be buried out of sight under a greenhouse stage, or any similar place, where the under-ground temperature will be comparatively steady and not too warm. The exact degree of warmth required, and which may be readily ascertained by experiment, is, I opine, the greatest amount they are able to bear without endangering the bursting of the buds which, of course, would exhaust the sap and thus defeat our object. The callousing process completed they must then be gradually inured to the

usual amount of heat, light, air, and moisture of the propagating house.

A word here in regard to the nature of the Callus, as very erroneous ideas are sometimes entertained by gardeners concerning it. Some are under the impression that it is nothing more or less than a bundle of roots in embryo which may or may not be developed according to circumstances; and I have never heard any one speak on the subject, who did not seem to take it for granted either that the rootless issue immediately from the callus, or that, come whence they may, they penetrate directly through it. In a series of articles on the "Science of Gardening," at present appearing in the *Cottage Gardener*, the writer takes the same ground and more than once affirms that roots are emitted from the callus. Now, unless I am strangely mistaken, such an occurrence rarely if ever happens. After examining hundreds of rooted cuttings I am clearly convinced that, the root fibres are in all cases emitted laterally from near the base, and that in those instances in which they do seem to issue from the callus, it is merely an illusion caused by the swelling of the latter, around the ends of the cuttings. Dr. Lindley remarks that, "in cuttings the callus, which forms at the end placed in the ground, is the cellular, horizontal system, preparing for the reception of the perpendicular system, which is to pass downwards in the form of roots." This is so theoretically, but, as I before observed, it is highly improbable that the perpendicular system is ever so received, the roots showing a much greater affinity to their new surroundings, than they have to the callus, of which they are entirely independent.

In the work from which the above quotation is taken, the *Theory of Horticulture*, the callus is spoken of as "those processes which usually precede the formation of roots," and this, (coupled with the idea I have just advanced, viz.: that in the case of slips detached from the parent plant, said process should likewise precede the bursting of the buds,) is, indeed, the only point that we as gardeners need care much about. Once become fully impressed with the belief that any attempt to excite cuttings prematurely is wrong in principle and we are then able to account for many of those failures in propagating which otherwise appear to us inexplicable. The usual mode of raising the Japan Quince from root cuttings may serve as an illustration. After being cut up into small pieces it is either put at once in heat or if suffered to lay around for a time is but very imperfectly calloused. The cuttings being wholly unprepared for the emission of roots, the only effect of the heat is to excite the tops, and these will sometimes grow two feet high without showing any symptoms of throwing out roots. Pinching the tops is indeed par-

tially a remedy for this state of things; the best preventive is in having the cuttings all calloused and ready for the start; pinching will then tell with much better effect. Those in the habit of root-grafting the native grape, the tree-peony or any other plant that requires stimulus of the hot bed know, to their cost, how such things, after giving great promise, frequently die away in the most mysterious manner. There can be no doubt I think as to the cause of the difficulty. Had the application of heat been gradual, so that the union of root and scion had been perfected previous to being excited by 70° or 80° of bottom heat, the chance of failure would have been considerably lessened. Florists near large cities might turn this underground system into good account, by cutting up and stowing away their bedding stuff until wanted for propagation, but with this end in view they must be calloused at a lower temperature than before advised. This last suggestion, however, as well as everything else brought forward in this article, must be taken only as so many hints and acted on with caution and by way of experiment. That they are hints in the right direction I honestly believe and therefore predict great results from them if properly followed up. Having no facilities at present for carrying on these experiments, I give the above for the benefit of your readers with the hope that those among them who have anything to communicate on this subject will not be backward in doing so.

One other remark before I close. About two weeks ago I selected a few sticks of Pear buds and also a few Quince shoots of a corresponding size. The Quince cuttings were made into lengths of three eyes each, the middle eye neatly cut out and a pear bud inserted in its place. I examined them the other day and found every one of them beautifully united, and also the quinces calloused at the base. Can the idea be turned to profitable account?

TO PROTECT CABBAGE FROM CATERPILLARS.

BY E. F. TRAGARDH, CHICAGO, ILLS.

Having noticed the complaint of your correspondent, John, of Lynchburg, Va., concerning the caterpillar on cabbage. I would kindly suggest to him, to scatter a few seeds of the common hemp amongst his plants. Half a dozen hems will protect an acre most effectually.

DENDROMETER.—A small pocket instrument has been invented in Edinburg, by which an angle of 45 degrees is readily obtained with the top of the tree, and the level from the stem to the eye; thus forming a right angle triangle in which the height of the perpendicular is equal to that of the base.

SKETCHES of PHILADELPHIA BOTANISTS

BY L.

III.—JOHN AND WILLIAM BARTRAM AND HUMPHREY MARSHALL.

In close connexion with the names of Collinson and Fothergill, we place those of John and William Bartram and Humphrey Marshall, the first honoring the "Bartramia" a moss growing among the damp mountain rocks of Berkshire, Massachusetts; the latter the genius "*Marshallia*," composite plants found in the Southern States; their researches in their own Pennsylvania, it would seem, having left none for later discoverers to name in their honor.



John Bartram
1739

These worthy students of nature were farmers, and the sons of farmers, and while cultivating their paternal acres, found time for the pursuit of Botanical science.* These sons of the soil were self educated men, surrounded daily with objects of interest, they could not pass them unheeded by, nor close their eyes to the wonders and beauties of the varied creation. They regarded with scrutinizing curiosity, the infinite variety of plants unknown, and of course undescribed in the volume of the botanist, and knew no higher pleasure than the study of the forms wonderfully diversified, with which our forests abound. The enthusiasm with which they devoted themselves to

* So earnest was John Bartram in the pursuits of learning, that he could scarcely spare time to eat, and might often have been seen with food in one hand and his book in the other. While plowing or sowing his fields, he was still pushing his enquiries into the operations of nature. What a contrast does his enthusiasm present to the dull indifference of boys of our day, who surrounded with means of receiving instruction, waste the precious opportunities through indifference and neglect.

the pursuits, and the industry and perseverance with which they followed it, were accompanied with a modesty, prudence, worth and other sterling virtues, which must endear their memory to all who read their lives and correspondence, as charmingly portrayed in Dr. Darlington's delightful volume. "The lovers of nature everywhere, whom the London merchant, Peter Collinson, introduced to the acquaintance of Bartram, regarded him with admiration; the learned men of Europe sought his correspondence; princes patronized his labors, and learned societies conferred on him the highest testimonials of esteem. He was not only a man of science, but a man of genius.†—He was endowed with extraordinary capacities of body as well as of mind, enduring fatigue, encountering danger, overcoming difficulties, undergoing privation, and persevering to the end in the accomplishment of every great object he had in view.‡ He was not only a man of science, a man of genius and a man of great capacities—he was a man of great virtues. His life is scarcely more distinguished by his discoveries, than by his reverence for the *great Author of Nature* and the love of his fellow-creatures.—His residence and garden have become objects of interest to all students of his favorite science, and to strangers of taste. Having become the property of a gentleman of wealth, who cherishes a regard for the memory of its founder, it is preserved from desecration, and a stroll beneath the trees planted by the hands of Bartram a century ago, will well repay every lover of nature, every admirer of simple virtue and genial worth.



[BARTRAM'S OLD MANSION, KINGSSESSING, PHILADELPHIA.]

The Bartram Botanic Garden, on the west bank of

† Dr. Franklin, in a letter introducing John Bartram to Jared Eliot, dated Philadelphia, Sept. 1st, 1775, writes: "I believe you will find him to be, at least, twenty folio pages, large paper, well filled, on the subject of Botany, fossils, husbandry and the first creation."

‡ John Bartram was a great traveller in search of his favorite objects in natural history, making his way from the head waters of the lakes and rivers of New York and Pennsylvania, through what was then a wilderness, and accomplishing, when he was nearly seventy, a full exploration of the St. John's river in Florida.

the Schuylkill, about four miles from Philadelphia, was established as early as 1720, at a time when nothing of the kind existed in the colonies, except Dr. Clayton's, in Virginia. Here were concentrated very many of the indigenous plants and trees, of N. America, and in greater profusion perhaps than can elsewhere be found. John Bartram and his son were industriously employed in making this collection for 110 years, so that in reference to plants enduring our winters, it must have been unrivalled in the days of its prosperity. Thirty years ago it was computed that there were two thousand species of our native productions within the space of six acres.—Plants of every size were then to be seen, from the minutest *Marchantia* to the loftiest cypress, one of the latter was 30 years ago, upward of 112 feet in height and 25 feet in circumference. When last seen by the writer, it had exceeded these dimensions. It is now upwards of 125 years old. Noble Norway Spruces, though too closely planted, and large *Magnolia acuminata* are among the interesting specimens; and in its season of flowering, the beautiful *Halesia tetraptera*, a medium sized tree, abounding with drooping white flowers, resembling the snow-drop, form a lovely ornament beneath the clustering shade.

Bartram's learning was not inconsiderable, for which he was indebted to his own efforts, in the midst of toil, after he had attained the age of manhood, and was encumbered with the care of a family. He acquired a knowledge of the several languages, partial we may suppose, and of medicine and surgery. His rustic appearance and careless dress gave no indication of the accomplishments of the inner man, and led in one instance to an amusing, and on the part of one of those concerned, a confusing blunder. The governor of Pennsylvania, having a communication for Bartram, as the story is told, sent for him, but when he appeared before his excellency, the chief magistrate taking him for a carter suffered him to stand, paying him no attention. Bartram at length addressed the governor, saying, he had been told that he wished to see him. The governor eyed him a moment and telling him it was a mistake, resumed his writing. Bartram comprehending the cause of this treatment, accosted the great man in Latin. The governor surprised, replied in the same. Bartram, it is said, then plied him with another tongue, and another, until the governor was forced to cry quarter, and confess inferiority to the simple rustic.

Bartram in stature was rather above the middle size, erect and slender. His complexion was sandy, indicating a sanguine temperament. His countenance wore a cheerful expression, though his air was solemn, and his gentle manners accorded with his amiable disposition. He was modest, liberal, chari-

table, a friend to liberty and social order, and a real benefactor of his kind.

He deceased in 1777 in the 78th year of his age.

His eulogy has been pronounced by Linnæus, who styled him "The greatest natural botanist in the world."

William Bartram, son of John Bartram, inherited the botanical zeal of his father, and came naturally by his tastes, having been born at the Botanic Garden, on the banks of the Schuylkill in 1739. He had an early talent for drawing, which was afterwards usefully employed in botanical and ornithological sketches. He accompanied his father to Florida, and there attempted the cultivation of indigo. His own travels were commenced in 1772, at the request of Dr. Fothergill, and he occupied five years in collecting and studying the natural history of the more Southern Atlantic States. On his return, he quietly passed his time in scientific occupations, at the old Botanic Garden, never marrying, though occasionally rallied on the subject by his friend Collinson. His "travels through North and South Carolina, Georgia, East and West Florida, &c., were published in 1791 in Philadelphia, and reprinted in London in 1792, and again in 1794, and Paris in 1802. The style of this work is distinguished for its simple love of nature and its vivacity. "It is a delightful specimen of the enthusiasm with which the lover of nature, and particularly the botanist, surveys the beautiful and wonderful productions which are scattered over the face of the earth." It breathes the freshness of a new land, every sensation is pleasurable, welcomed by health. All his faculties are alive in his book, whether he describes a tree, a fish, bird, beast, Indian or hospitable planter. He detects fragrance, vitality and health everywhere in the animal world, Coleridge honored this work with his eulogy; "the latest book of travels I know, written in the spirit of the old travellers, is Bartram's account of his tour in the Floridas. It is a work of high merit every way."

William Bartram to his botanical knowledge, added an acquaintance with the ornithology of our country, and prepared the best list of birds before Wilson.—Alexander Wilson resided for some time at the Botanical Garden, enjoying the valuable friendship of Bartram, who assisted him in his drawings and in the preparations of the early volumes of his great work. Fred'k Pursh, who visited Wm. Bartram, thus writes: "I found him a very intelligent, agreeable and communicative gentleman, and it is with the liveliest emotions of pleasures I call to mind the happy hours I spent in this worthy man's company, during the period I lived in his neighborhood."

A visitor to the Botanic Garden, curious to see Bartram, has left a sketch of his appearance:

Arrived at the Botanist's garden, we approached

an old man who, with a rake in his hand, was breaking the clods of earth in a tulip bed. His hat was old and flapped over his face; his coarse shirt was seen near his neck, as he wore no cravat or kerchief, his waistcoat and breeches were both of leather, and his shoes were tied with leather strings. We approached and accosted him. He ceased his work and entered into conversation with the ease and politeness of Nature's nobleman. His countenance was expressive of benignity and happiness; this was the botanist, traveller and philosopher, we had come to see."

Bartram appears to have been engaged in these genial pursuits to the last, for it is recorded, that he penned a description of a plant a few minutes before his death, which happened suddenly in 1823, in the 85th year of his age.

Humphrey Marshall also contributed to enlarge the botanical treasures of England, and corresponded with the leading botanists of his day.

His garden at Marshallton, Chester Co., Pa., abounds in rare and noble specimens of American trees and shrubs, now a wilderness of overgrown and rank vegetation.

Pursh visited this garden about the beginning of this century, when Marshall, though far advanced in age and deprived of his eyesight, conducted him personally through the collection, pointing out many which were new to his visitor; thus evincing continued attachment, to the science which in former years, he had pursued with a mind full of vigor and senses unimpaired.

In his perseverance and devotion to Botany, he much resembled his cousin John Bartram, and the career of both should serve as a bright example which sons of farmers, in our day, might follow with advantage to themselves and to society at large.

STRIKING CUTTINGS.

BY J. M. SMITH, GREENVILLE, ILLINOIS.

I wrote to you some time ago that I was experimenting in striking cuttings in a new material. Here it is—and successful.

Near our nursery is an old tannery, where spent or rather rotten tan-bark, of from twenty to forty years old, lies in large beds, perfectly rotten. Of this material I procured a lot, and inserted a number of cuttings promiscuously cut from the nursery, and none of them failed, except a few I drew out in making notes, and they were all nicely calloused. I inserted cuttings of Pear, Plum, Currant, Gooseberry, Grape, Althea, and a number of bedding-plants, together with some Pine-apple buds, and all have well rooted, or are in the act of doing so. The tan keeps just nicely moist, and is so loose that the ten-

der rootlets permeate immediately the loose bed, forming perfect masses of roots.

I take shallow boxes about six inches deep, and fill them to within half an inch of the top with the decomposed tan—setting it well with sprinkling of water, then place it where the air will circulate freely beneath the box, (the box being perforated at the bottom so as to afford a perfect drainage.) I fill it quite full of cuttings, and place it in the shade where the air circulates freely.

I have no doubt that by supplying bottom heat, it will answer excellently for striking cuttings in the winter in lieu of sand. It never packs or bakes by neglecting to water, and in fact retains moisture so well that it needs little watering at all. A Rebecca grape cutting showed roots over an inch long in three weeks.

HYBRID APPLES AND STRAWBERRIES.—Mr. W. A. Williams, the Secretary of the "Southern Pomological Society," at Charlotte, N. C., says that on the 19th of June, of present year, Mr. Edwin Alexander presented to the Committee ten Hybrid varieties of Apples, which were the result of a natural "freak, brought about by the Bee, or some other insect, in conformity to established physiological laws, but under the circumstances somewhat curious—a Red Astrachan and a June Apple tree stood on opposite sides of a Fall Pippin—an Apple green-skinned when ripe, and now but half grown—on the side next the Astrachan, the Pippin ripened a large fine red Hybrid specimen of that Apple, and on the June Apple side, a fine, well made Hybrid of the June Apple; the presents in each instance being well defined and beautifully blended."

[We give the above as "information" of what ideas are travelling about. Of course the freaks are not hybrids brought about by bees; nor are they in accordance with "established Physiological laws" of hybridization, which effects the progeny of a fruit, and not the fruit itself.]

BLAND OR POWELL GRAPE.—Mr. Van Buren recommends this strongly for the South. He says:—"In size it is equal to the Catawba; in color and general appearance, little, if any, inferior to the Golden Chasselas; in vigor and productiveness, about the same as Catawba and Isabella, while in flavor it is rich, sweet, juicy and tender, with very little pulp. It is very easily propagated from cuttings, not more than one in every ten failing to grow, with ordinary treatment; it is not more disposed to rot than either the Catawba or Isabella, if well and judiciously pruned during summer, while the bunches or clusters are of fair size."

The Gardener's Monthly.

PHILADELPHIA, SEPTEMBER 1, 1860.

All Communications for the Editor should be addressed, "THOMAS MEEHAN, GOTHENBOW, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

TO ADVERTISERS.

Copies of Advertisements, when they occupy an entire page of this paper, will be furnished to the advertiser, printed on good paper for private distribution at the low price of THREE DOLLARS per thousand. *Nurserymen* will find this an economical way of getting their *Wholesale Lists and Abstract of Catalogues* printed.

HAVE WE ANY GARDENS AMONGST US?

The Father of modern Philosophy tells us that "a garden is the purest of all human pleasures." But where is the spot that justifies this definition? We have amateur gardeners and professional gardeners, and gardening periodicals, but we have no such gardens—for the spots so called are the reverse of pleasures. If a citizen fancies he will have his garden, he finds out when too late for repentance, that he has wedded himself to a lot which entails endless trouble, vexation, and annoyance; and "what shall I do with my garden?" becomes one of the most important questions in life.

It is true, a few delightful little Edens exist where the happiest beings amongst us, are they who own, dress, and keep them,—but these are but the oases in the great desert of gardening.

People who fancy they have gardens, abound; but they skilfully conceal the worm that preys on their vitals, to wit, their purses; and the want of knowing what better to do, alone restrains them from committing horticultural suicide. "Better" say they "to bear the ills we have," or as the happy Mr. Weller less poetically expresses it, they make up their minds to be satisfied, perfectly satisfied, with their present situations until they can provide themselves with better ones. Thus like some other saints they make virtues of necessities; and the spectator, innocent of a garden, is led to mistake their compulsory martyrdom for voluntary delight.

The great majority of those who "go down into" the country, know full well the truth of this remark; and their gardeners also know that their whole lives are but a continual succession of harrassing vexations and cares. And the Horticultural editor—the Jupiter who high up in the clouds of his editorial sanctum receives the complaints and griefs of his dissatisfied subjects below, he knows better than all others that if pure, much less the purest pleasure is the distinguishing feature of a garden; the enquiry "have

we any amongst us?" is one we may be allowed in all good faith to ask.

It seems the fate of man that he shall have no garden. The same wandering discontented nature that caused his expulsion from his first paradise, leads him to sow thorns and thistles in what might be his second; and like the ass he seems to prefer the harsh and unsavory matter, instead of willingly cultivating the choice fruit and happy flowers nature persists in so generously urging him to adopt for his use.

Why we have no gardens, we have partially explained in our July issue. On the "every man his own Washerwoman" principle, no distinct object is seen—no practical result aimed at. The uncultivated mind, views a garden in the distance, as a boy sees a lovely butterfly, on the wing. He would like to have it; imagines a great deal of pleasure would be derived from its possession, and he gives pursuit. He grasps it with a thrill of intense pleasure, and opens his hand but to find in it a crushed and unsightly mass of loathsomeness and ruin.

It should therefore be a first thought with all who would have a real garden, that will give the pleasure and enjoyment a garden ought, what they expect a garden to do for them, and what they will do with the treasure when they get it. The details should be well weighed. Everything should have some purpose. Nothing should be unmeaning. A reason should be ready for all things.

In choosing a spot and laying it out, the physical wants of human nature should be first studied. The site will be governed by ease of access. The most lovely situation, or the most delightful prospect, becomes painful in time by difficulties of approach. The house will be so arranged, in reference to the grounds, that the greatest amount of comforts can be realized with the least amount of physical labor in the enjoyment. Then a house will not be built on the top of a hill, where, however magnificent the view, a pair of horses can scarcely draw up to it an empty carriage; nor will the carriage road be so arranged that you have to swelter up a flight of a score of steps on a hot day, or be soaked with rain on a wet one, to get from the carriage to the front door. The stables and out buildings, the vegetable and fruit garden, and other objects requiring continual communication with the mansion and with one another will not be placed at an inconvenient distance, nor in situations utterly unsuited to the main objects of their existence.

In all matters of physical utility, abstract beauty should play but a secondary part; theoretically there is more beauty in a curved line, than in a straight one, but practically the mind revolts at the idea of going round a circle on a matter of business, and insists on driving straight through the diameter.

We know that it is this mistaken course of losing sight of physical utility—this sacrificing of every atom of comfort to an invisible, indefinable, incomprehensible spirit of abstract beauty, that renders country life so frequently miserable. We see the shadow and search for the substance. We miss the kernel, and find but the shell.

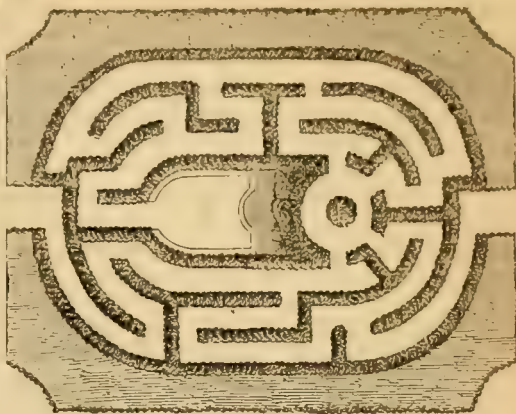
We must confess that the tendency of the teachings of modern writers on the art of landscape gardening, has been in a great measure to elevate unduly ideal beauty over substantial comfort and convenience, and something of the failure to make a garden enjoyable has to be laid to its door. Beauty of form and outline, artistic groups, fine contrast of color, the niceties of light and shade, are all well enough if a garden is only a something which we are to enjoy as we would admire a fine landscape painting in a gallery, sitting in an arm chair; but this mere copying of nature is but a small part of the pleasure of gardening, and falls far short of the capacities of the art to furnish enjoyment for us.

The triumph of mind over matter, is always a source of pleasure, and was at the foundation of the ancient geometric mode of gardening, which the modern showy style has well nigh supplanted. Modern gardening nearly ignores the principle. You cannot now grow your herbaceous plants, and fill your garden with a multitudinous variety of beautiful forms, which you can go in amongst, contrast, and admire; but you may in good taste have a few beds of coarse leaved, over-fed Geraniums, Petuneas, or other such things, which give you a gaudy mass of color, and which you may lazily look upon from your drawing room window, and having once seen, feel the novelty is gone. You may not now have any flower bed, but an oval or a circle. It is vulgar to cut or clip a tree into any form but that into which it would naturally grow,—trimmed hedges are an abomination and straight walks are odious. We must in fact do nothing but "imitate nature." We are to act in the matter like some little girls, who are taught to dress up, and look so stiff and prim in their efforts to be so youthfully fashionable, that the whole idea becomes repulsive, and wounded human nature will rebel.

The effort to accomplish what nature seems to forbid us to do, is one of the greatest attributes of humanity. To ripen peaches at Christmas or in Lapland, affords us more real pleasure, than the greatest abundance of fruit in its natural season or locality; and to derive any amount of pleasure from a garden, we must carry this idea beyond the area of the forcing-house, and extend it to every part of the ground.

There are many little fancies that can be carried out on every place however small, that would not fail to add great interest. A maze, for instance, would

often add much to the pleasures of a garden. The following is one designed by Nesfield for the proposed new Horticultural Garden at London.



A summer house fountain, and water could be formed in the centre, and the maze, which could be formed of Arborvitæ, or other evergreen, or even of Beech, Hornbeam, or other close growing shrub, be formed all around it.

Arbors, and seats cut out under close growing box trees,—rustic seats made of living branches, and many other things can be introduced, which the length of our article prevents us from now doing more than suggest.

That there is something wrong in the system which, though declaring a garden to be "the purest of all human pleasures," can point to so very few who, though possessing the name of one, actually enjoy it; no one will deny. We think we have indicated wherein the error lies, and hope to see a vast improvement.

NECTARINES, PEACHES, AND GRAPES.

In a note to a communication in another column, we refer to some fine specimens of *Hydrangea variegata* we saw on the grounds of Harry Ingersoll, Esq. Amongst some other matters that our memory loves to dwell on, were the Peaches and Nectarines in pots about 12 inches across, which were plunged in the borders along the walks in the vegetable garden. Each plant averaged two dozen fruit all of full size, and at the time of our call (July 10th) ripe. For the first season of fruiting we considered it a great success, and an example we should like to see more frequently imitated. The pots are preserved from frost through the winter, and kept in the orchard house, until the curculio season has ceased, when they are taken out and plunged as we have described.

Being in the neighborhood of Hestonville recently, we could not resist the inclination to visit the estate of Thos. P. Remington, Esq., where ten years ago,

the writer performed the first act of his professional career in Philadelphia.

The crisis of 1856 and '57 drew Mr. Remington into its vortex with so many other worthy citizens of our Republic, from which he has never revived and the magnificent Park of near 200 acres, which, had it been completed as the taste and means of its owner intended, would have been perhaps the finest specimen of landscape gardening in the Union. What had been done was still beautiful through the ruin with which neglect has overwhelmed it, and in its design still visible, bore the imprint of a master's hand in the art of landscape gardening. Mr. Chas. Miller, the designer, is already known to our readers by several communications, and from what we saw here of his capabilities should be glad to hear from him oftener. Crossing from Mr. Remington's to Mr. Francis Yarnall's adjoining, we found the best looking foreign Grapes we have seen for some time. The vines were models of health and beauty, and are now in their second bearing year. We measured one bunch which was *seventeen inches long and sixteen inches wide*, and for weight—what will our readers say to Black Hamburg Grapes *over five pounds* in weight not merely one or two, but many of them and mostly uniform in size. The fine black berries were more like plums than grapes. The vines are planted in the house and have as well an outside border. The house is built on a side hill, and has the peculiarity of being constructed for both grapes and plants. The glass roof span is *twenty-two feet*, and the earth is dug away under the glass so as to form *two steps*. On the upper and higher step which is about 10 feet wide, is the staging for plants along the front of which, and on the edge of the step, the flue runs and keeps the place warm. On this we look down on the lower step which is the vinery proper, and is comparatively cool in the winter, and in which the vines can then be laid down and be at rest. Mr. Matheson, the excellent gardener, did not speak highly of the arrangement so far as the plants were concerned, but we saw in it a principle which with some modification will yet come into popularity. But we intended here to speak only of the Grape. If any one can beat Mr. Matheson we shall be glad to know of it, and if it is not "out of our world" should like to pay a visit.

PORTRAIT OF JOHN BARTRAM.

Just as we were going to press, a friend presented us with an engraved portrait of John Bartram, which we have incorporated in our correspondent "L's" article. We were always under the impression that no portrait of the distinguished botanist existed, but the source from which we obtained it seemed to admit of no doubt. On more minute inquiry, we find

that the engraving referred to was taken from a description of his person, and from a portrait of his son, William Bartram, who he was said closely to resemble.

THE GARDENER'S MONTHLY.

About this time two years ago, the Pomological Society being about to meet in New York, we set ourselves out to prepare a new fruit to be laid before this distinguished body, in the shape of *our Journal*, which we were anxious they should at least place on the list of "those which promised well;" but before we had actually plucked our fruit, we found it would improve by being left a few days longer on the branch, and so we were unable to serve it up to our friends till the first of October when our specimen number appeared. While another biennial period has been recurring, our sapling has grown into a well developed tree, and we are now enabled to offer not merely a single fruit prematurely gathered, but near two dozen of them, full formed and rosy, throwing around the aroma and delightful fragrance that the aid of its hundred corresponding friends in all parts of our great country have imbued them with.

We do not offer our production as an improvement on any one existing; but as a new form or species that will call for no "rejected list" into which to consign any of our contemporaries. Finding a field at a cost of *only a dollar* unoccupied and unexplored; peopled only by aborigines who had never known the civilizing influences of any Horticultural Journal, we planted our little tree in the midst, around which as it grew we fondly hoped to draw a class of settlers peculiarly its own.

Our territory has rapidly filled up. The citizens now number many thousand, as our subscription book and advertisement columns amply testify; and it is on their behalf that we now apply to the Convention, and to all true Pomologists, that our offering shall be transferred from the list of those fruits which promise well to those which are "worthy of general cultivation."

Elevated to this distinguished position, we hope for the continued aid of our friends to improve the character, and make the merits of their selection known. Our effort shall be not to rival the size of the delicious Bartlett, nor compete with the *emborpoint* of the regal Duchesse, but rather to become the *Seckel* amongst Pears in literary Pomology.

Notwithstanding the trial of the two past years, which has proved the *Monthly* to be so well suited to so extensive and so varied a number of tastes, we have hope still of further improvement; and before the next meeting of the Pomological Society in 1862, we hope to attain a still higher class in the society's lists, if it has any.

LAWNS.

In another column will be found an article by Mr. Sargent, which will receive the attentive perusal of all our readers. We are well satisfied that the plan of frequent machine cutting, and of leaving the mowings to remain on the lawn, will ultimately come to be a general feature in American gardening, and the name of Mr. Sargent, as the introducer of the practice, will receive a prominent place in its history, as one of our greatest benefactors.

We allude to it here in order to give prominence to the fact, which scarcely needs however additional illustration, that there are many principles which seem to oppose our old fashioned notions of gardening, which only require a little thought in order to be rendered of vast service to us. Here our hot dry climate, which we have thought so opposed to "the fine green English lawns" will now enable us to introduce at least an exclusive "*American System*" of managing them, by which we shall be saved half the labor and expense of keeping them, and have them little if any inferior, as Mr. Sargent's magnificent lawn itself testifies.

We are suffering under many other evils besides a dry climate, which oppose at every step the practices of Horticulture in which we have been educated.— Since we cannot remove, may we not hope to utilize them?

We look yet for the advent of a few more Franklin's in American Horticulture, who if they cannot remove our lightning-like evils, will yet be able to saddle and bridle them for us.

It would be a curious chapter in the history of the future, that should class the Plum weevil and Grape mildew amongst the best friends of the gardener.— Who would dare hope for that? But when we have "our abominable climate" as our lawn-mowers term it, actually forced to aid in making a green and velvety lawn, where may our hopes be compelled to terminate?

ERRATUM.

In the interesting article on Lawns, by H. W. Sargent, Esq., in the communications of this month's issue, and in the last line on page 259, instead of 1½ inches, read 14 inches.

A NURSERY PARTNER WANTED.

Under this head a notice appears in our advertising department, well worthy of attention from parties interested, and we allude to it here only because we think it a chance of rare occurrence. Were we on the look out for an opportunity to commence Nursery business we could not wish to step into worthier

shoes than those offered by such a firm as Ellwanger & Barry.

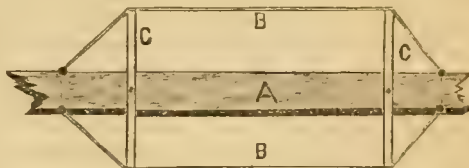
PARFUGIUM GRANDE.

(See Frontispiece.)

This plant has been so often alluded to in our columns that it is unnecessary to repeat its history.— Though but two years have elapsed since its introduction to public notice by a London Nurseryman, it has won its way rapidly in popular favor. Mr. Buchanan stated in one of his advertisements that it has proved hardy with him, and we have no doubt it will prove so in most localities.

SIMPLE ARRANGEMENT FOR TIGHTENING WIRE.

On a visit to the country seat of H. J. WILLIAMS, Esq., at Chestnut Hill, Pa., we noted in the vinery a very simple but effective method of tightening wire of which the annexed sketch will afford an idea.



A. rafter; B. B. wire, C. C. narrow strip of wood fastened to the rafter by a screw in the middle, with the wire, as represented passing over the ends.

When the wire is attached at first, the top brace is screwed on and the wire drawn over and attached to the base of the rafter loosely. The lower brace of the same length as the upper, is then placed in near the bottom and drawn downward until the wire is sufficiently tightened, when the screw is applied to fasten the brace to the rafter. The lower brace, at the tightening may be kept at an acute angle, so that when the wire slackens by lessening the angle the wire is tightened. When the brace has assumed a right angle, should the wire again become loose, the brace can be unscrewed, and set an inch or so lower down, when the operations before described can be repeated.

The beauty of this simple plan is, that instead of continually unfastening wires in order to tighten them, and this too usually unsatisfactorily, a single turn of the thumb or of the screw driver, effects the whole in a moment.

The principle can be applied as well to wires, on arbors and trellises as to those in Graperies or Green-houses.

The readers of our advertising columns would do well to note that there are two firms of the Hookers in Rochester, N. Y. H. E. Hooker & Co. is a distinct firm from Hooker, Farley & Co.

FAIRMOUNT PARK, PHILADELPHIA.

We took a ride through these lovely grounds a few days since and were highly gratified to find that the work was progressing so rapidly. The carriage drive is nearly completed and is made in the most durable manner, gravel on a stone bedding with chains at the sides. It is beautifully undulating with easy grades, now skirting along the margin of the beautiful Schuylkill and then winding up on the high ground, affording most exquisite views up and down the river.

The grand avenue of American Linden is graded and planted, and will be a most imposing feature.—The walks are also nearly completed and an immense number of choice Evergreen and Deciduous Trees and Shrubs most judiciously planted. The fine old specimen trees already on the place add greatly to its beauty. The *Schuylkill Navy*, composed of the various barge-clubs, are building a number of boat-houses under the superintendence of the architect; some of them are already completed and are perfect little gems and quite ornamental. We were pleased to see so many of our citizens availing themselves of its advantages. We saw several family groups seated on the grass and enjoying the beautiful views whilst scores of carriages were slowly winding their way through its drives. The projectors of this Park deserve and will receive the gratitude of our citizens for all time to come.

There are many peculiar features introduced into the Park that will interest our readers, and we shall take an early opportunity of again recurring to them.

Questions and Answers.

ARTIFICIAL BREEDING OF FISH, AND AQUARIA MANAGEMENT—J. S. A., Jr.—"In your July number I see mention made of Mr. Desilver's "fish pond" and of artificial fish breeding; I have several times tried the operation, with no success, I suppose for the want of proper information on the subject; cannot you give me through your columns, a full description of the 'modus operandi.' I am much interested in the subject of fish, and the other appendages of a perfect aquarium."

[Our correspondent has probably failed through operating on the fish too early. The spermatie fluid and the spawn must be obtained by pressure from the different sexes only when perfectly matured, and mixed with water in a vessel which will afterwards require much care in changing. It is easy when the niceties are just balanced; but this has usually to be obtained at the expense of failure at first. We could not do better than refer our correspondent, and all interested in the interesting study, to "A Treatise

on the Artificial Propagation of Fish" by Dr. Garlick, published by C. M. Saxton, New York, in which the whole subject is treated very minutely and completely. As it is quite recently published it contains the newest discoveries.

The management of aquaria is easily learned.—There must be a good quantity of water plants in a healthy state of growth to make oxygen for and to feed on the carbonic acid thrown off by the fish.—Shells of clean pebbles should be placed on the sand in which the aquatics are planted, to keep the fish from rooting them up. Beautiful aquatics now exist in every pond and stream well adapted for the purpose. The following list grow in almost every part of the Union, and may be pointed out by any botanist, at least one of whom may be now found in almost every town.

Vallisneria spiralis, one of the best for the purpose; *Alisma plantago*, rather coarse but fish thrive with it; *Anacharis canadensis*, *Callitriche verna*, and *C. autumnalis*, *Caulinia flexilis*, *Ceratophyllum demersum*, *Eriocaulon septangulare*, *Fontinalis* different species in most running streams; *Proserpinacea palustris*; *Myriophyllum spicatum*, *M. verticellatum*; *M. heterophyllum*; *M. scabratum*; *M. ambiguum*; *Polamogeton crispus*, doubted by Dr. Gray, in his last edition of his Flora, as having been found in the United States, has since been found in Delaware by Edward Tatnall, on the Lehigh in Pennsylvania by Josiah Hoopes, and in New Jersey by Isaac Burk, and may possibly be found common in other parts; *P. pectinatus*; *P. hybridus*, *P. pauciflorus*, *P. compressus*; *P. perfoliatus*; *P. lucens*; *P. natus*; and probably some others which we do not now remember but which we should be glad for some of our correspondents to supply.

There are also many foreign kinds in use. *Culla Elthipica* is frequently employed; and we have seen the *Trapa bicornis* of China in some Philadelphia aquaria.

If every thing go right water will not require changing often. Diatomaceous plants will however often prove troublesome, and give the water a green scummy appearance, when it (the water) should be drawn off by a siphon, the fish taken out temporarily, the whole affair cleansed, and the fish and clean water again replaced.

CHERRIES ON KENTISH STOCK—W. W. M., Jonesville, Mich.—"The Heart Cherries do not seem to do well in the southern part of Michigan. The weather seems too severe for them in winter. The bark cracks open, and the gum runs from them all the time, and appears in these openings, and in the course of two or three years they die. Do you consider these kinds of Cherry trees more delicate than other kinds? A friend of mine in Somerset, in this county, has 800

Cherry trees in his nursery, (W. Bunday, Esq.,) 500 of which are grafted. He has lost hundreds in the manner I speak of, and is now grafting Yellow Spanish and Ox-heart on what he calls English Kent trees. Is the English Kent the same as the Morello? He does not appear to have lost any grafted on Kent stock. Our peach crop in this State, except upon the shores of Lake Michigan, is small. The fruit was probably killed in the winter. The apple crop will be larger than expected.

[The Kentish is one of the varieties of the Morello, and is preferable for stocks where the tender kinds of Heart Cherries are liable to be winter-killed. The Mahaleb is also employed for this purpose. Being of slower growth, they check the luxuriansness which leads to winter-killing.]

IMPROVEMENTS—*Book Gardener, Pittsburg, Pa.*—I have a bed of strawberries, which I wish to remove this fall and substitute a lawn in place of it. What would be the best month to remove them, and what treatment would you prescribe to get the lawn into grass next season? The soil is a pretty strong, clayey loam. (1.)

The place I have come into possession of, is mostly occupied by an old apple orchard. I notice in parts of it the grass is very thin and weedy. I fear to plough it up, lest I injure the roots of the trees. How can I eradicate the weeds (plaintain mostly) and get it into grass? (2.)

I wish to lay out a serpentine walk all round this orchard, (about three acres,) but it would be too expensive to dig it out a foot or so and fill in with gravel. Would it answer to cut out the sod and cover with tan-bark? (3.)

What shrubbery would you recommend me to set out, bearing in mind it would be considerably shaded by the apple trees? (4.)

On the north side is an ugly fence, which I wish to conceal, but there is a row of large common cherry trees the whole length of it. Would Osage Orange or other hedge plant flourish beneath their shade? There is Hawthorn in a back field; would that do? (5.)

If it would answer, (the Hawthorn,) how should it be transplanted or propagated? (6.)

[1. Subsoil two feet deep as soon as the fall rains commence; dig any rough litter into the subsoil, to help keep it open and retain moisture in dry weather. Let the plot settle a few weeks after working, so as not to be liable to sink unevenly after. Then rake level, and sow with Rye-grass or Red-top, and cover with rye-straw lightly through winter, to keep the sun from thawing out the young plants. If you are

fond of White Clover, you may sow this on next April.

2. If the orchard is very old, you had better commence by planting a new one in some portion of your ground. Plough up the old one; never mind the roots; turn in plenty of well-fermented manure, and seed it down in October. In the winter give the trees a good pruning,—nothing like this course to make old and worn-out trees grow again. In your new orchard well manure and subsoil your ground, plant the trees, sow it down with grass, and give the surface an annual good dressing of fertilizing matter.

3. If your walk is a "foot-walk," why should you stone it a "foot deep," or at all? Roads are stoned to enable them to bear carriage weight. None but "greenhorn" citizens, who come fresh into the country and think "they know," stone foot-paths. Make the bottom dry, either by elevating or draining it; then an inch of tan, ashes, or gravel will give you a good walk.

4. If the ground is subsoiled, so as to cut off some of the old roots of the apple trees, most kinds of deciduous shrubs will do. It is not so much the shade that injures shrubbery under trees, as the vigorous roots which dry the soil so that no moisture is left for the shrubs. Very old apple trees have few vigorous roots to interfere.

5. See the last reasoning. Osage Orange or Honey Locust will do under the old cherry trees when they would suffer too much under younger ones. Dig deeper and manure better near the trees.

6. Better buy a few thousand plants from the nearest nursery.]

FUCHSIAS, PANSIES, &c.—*A Lady Subscriber, Washington.*—Will you be kind enough to inform me through the *Gardener's Monthly*, the meaning of the term "*callus*" in cuttings? (1.)

What is to be done with Fuchsias when they grow tall and bloom badly? Can they be cut down? and when should it be done? (2.)

How can Heartsease be prevented from blooming small? (3.)

[1. The granular appearance at the base of a cutting, which always appears before roots protrude from it.

2. Cut them in just before they push in the spring, and, after the new growth has pushed half an inch, repot into new soil.

3. Place the young seedlings in rich soil and a shaded place. Poor soil and dry situations are favorable to early flowering, and the contrary with the reverse.

APPLES.—The New York Pippin and Bendavis Apple are the same. See Downing's Revised Ed-

tion, page 119, and Horticulturist, May number, 1860.

A. L. CALDWELL.

RAVENSWOOD PEAR.—From C. J. Erhard, Ravenswood, L. I.—At page 155 of last volume, we gave, with a favorable opinion, an outline and description of this pear. The present specimens more than confirm what we there say of it. We regard it as a formidable competitor to the Ott, which it somewhat resembles.

SOIL FOR LILIUMS.—E.—What description of soil is best adapted for the growth of *Lilium lancifolium* (Japan Lilies)? (1.)

Also, whether bone-dust or phosphate of lime would have an injurious effect or otherwise in the culture of Hyacinths and Tulips. (2.)

[1. Any common garden soil, with peat or bog earth, or well-decayed surface-soil from a wood, will grow them well. They are very hardy.

2. It is of no use, and may be injurious. Well-rotted cow-manure and sand is the best appliance.]

PERPETUAL STRAWBERRIES.—In reference to our remarks under Mr. Prince's communication in our last, Mr. P. writes us:

"I notice your humorous comment on my article concerning strawberries, and I, of course, must feel overpowered by the strong fact setting all argument at rest, 'that when any thing can be proved to exist, it must certainly be possible;' but the question still remains, Has the thing been proved to exist? You, of course, refer to the hybridization of European and American species of the strawberry?"

Mr. Prince is mistaken. We did not refer by the quotation to his statement of facts proved by the past, but to his positive assertion that "there never will be hybrids between certain varieties of strawberries in the future." Hundreds of things quite as unlikely have been pronounced "utterly impossible," as the world's history fully proves, until the facts have "proved the thing possible."

FULLER'S BUDDING-KNIVES.—P. P. B., Lewistown, Pa.—Can you inform me where I can get one of Fuller's Budding-Knives? I saw a description of them in the October number of the *Gardener's Monthly*.

[We do not know. The one we made our figure from was made by a Connecticut firm, which, we believe, has since ceased to exist. If any one is still manufacturing them, it might be worth while for them to advertise.]

GRAPE DISEASE.—A "Subscriber," Philadelphia, says:

"I have several vines of the Catawba and El-

singburgh, the leaves of which during the last three weeks have dried up and dropped off. On some of the leaves I detected "thrips." Can that be the cause? (1.)

"My cold grapery is ventilated by a window opening on the south, the top sashes being kept closed. Is this sufficient? Some of the vines are very weak and unpromising. (2.)

"I proposed next winter to cover my strawberry plants with hay, instead of straw. What think you?" (3.)

[1. We could not tell the cause without seeing the vines, or specimens, and judging by the circumstances.

2. We must plead ignorance as to which is usually considered the "south" in a vinery. If the top sashes are always kept closed, and there is no escape of air any way from the top, it certainly is not sufficient. Conveniences for air the whole length of the top is essential in a vinery.

3. Straw is better than hay as a protector.]

OSCAR STRAWBERRY.—A friend informs us that Mr. John Hayes, gardener to Mr. Linsley, of West Meriden, Conn., has fruited the Oscar this season in a very satisfactory way. August 1st the plants were still in blossom, though bearing ripe fruit. The plants, however, had been kept in pots through the winter, before being planted out in the spring, and this is well known to interfere with the regular course of fruiting. The berries measured four inches and a half in circumference.

NATIVE EVERGREENS.—"A Gardener," dating from Maine, gives the following "thrilling" account of the way distant customers have been "did" and are being "done" by the pedlars in this line of nursery stock. It is an aggravating thing for the customers to be so rascally cheated; but, as we stated in reply to a correspondent last month, the public should not forget that the nursery business is one requiring great knowledge and skill to manage it properly, and it is just as important for a purchaser to find out that a nurseryman understands his business, as that he has trees to sell. The only security is to buy of no one you do not know, or only of those you have reason to believe are the men they ought to be.

"Orders are received by men—city merchants and others—who don't know a spruce from an oak, and executed promptly, but after the following manner, and perhaps they never saw one of those trees. First the order comes, then they send some men in the woods and pay them one dollar per thousand for getting and packing the trees. Of course, these men will go where they can get from three to four thou-

sand per day for a week, cart them out to the roadsides, leaving them there exposed all this time to wind and weather, together with taking them out of the depth of the forest, where sun or moon never shone upon, and where they are as tender and as spontaneously grown; much more so, than if grown under glass in a stove-house. This is one reason why so many of our fine native evergreens die from the effects of the winters. Again, if there are any large-sized trees wanted that a man cannot pull up by a hold of the hand, without any mercy, 'they have on hand a team of oxen with iron hooks,—fasten them. Run, boys, to the butt of the tree. Gee! Buck! Out you come, no matter in what shape.' While I have seen in pastures by the roadsides as handsome spruces as any Norway,—one here and there,—and all other trees the same. But it would not pay to hunt those up, while they could be got in the woods growing like rushes, and there, also, it would not pay those gentlemen in their counting-rooms from \$7 to \$15 per thousand; but if any honest nurseryman would start here and pay an experienced gardener to collect those from the pastures in the way they should be, how many would it save to the community!"

CUTTINGS—*A. N., New Market, Va.*—Your cuttings were, doubtless, too tender. Try them of a more mature growth.

NAMES OF PLANTS—*I. Leary, Orange, New Jersey.*
—*Pyrola rotundifolia.*

SEEDLING GOOSEBERRY—*From Mr. J. G. Youngken, Richlandtown, Bucks Co.*—The fruit is much larger than the Houghton, and gives promise of being a valuable addition.

SEEDLING RASPBERRY—*From the Same.*—In flavor equalling the Fastolf, and said to be hardier.

THORNLESS RASPBERRY—*Wm. R. Prince.*—"Some time during the past year there appeared a notice in one of the horticultural periodicals under this heading, signed "F. F.," and dated Cunnensville, Pa., describing a wild Raspberry growing near there, free from all thorns or prickles, and the berries very large, but the writer stated that he had not himself seen the berries. Will he not give us further information on the subject?"

[May it not be some of the forms of *Rubus canadensis*, which are often nearly thornless, but of no more pomological value on that account?]

CORRECTION.—In our last issue, in List of Pears, we gave Mr. Earle's address as *Rochester, Mass.* A

correspondent objects to the summary manner in which we have removed that gentleman from Worcester, where he has resided thirty years. "His friends do not wish to part with him at any price." But, after all, it was not we, but the naughty types, which did the mischief. In spite of all our watching, they cut queer capers sometimes.

STRAWBERRIES, RASPBERRIES, &c.—*Amateur, Evanston, Ill.*—What is the proper name of the strawberry called in Philadelphia and vicinity the Ladyfinger? What are its characteristics, and what is your judgment of its merits? (1.)

Also, what is the habit of Brinckle's Orange Raspberry as to hardiness and fruitfulness in northern latitudes? Is it grown extensively for market purposes in your region? (2.)

[1. We believe it is Scott's Seedling. It is a long berry, an abundant bearer, and so firm in flesh that it carries to market without bruising; but it is pasty and flat, and, without cream and sugar, and "fixings generally," is not worth eating. The Jersey fruit-growers praise its profitableness. It does not bear so abundantly in Pennsylvania.

2. Brinckle's Orange is very often hardy, but sometimes not. Mere temperature has not so much to do with the hardiness of raspberries as healthy growth and ripeness of the wood. All this being equal, there is little difference between the hardiness of any kind. It is not much grown for market, as red fruit sells best.]

NEWMAN'S THORNLESS BLACKBERRY.—We had recently an opportunity of seeing this in fruit. It is a slight improvement on the "Dewberry," to which section it belongs.

As this class of blackberries are sweeter, and ripen three weeks earlier than the "High Bush," of which the New Rochelle is a variety, it is well worthy of increased attention.

H. J. H., *Worcester, Mass.*—The proceedings of the June meeting of the Fruit-Growers' Society of Eastern Pennsylvania are not yet officially published.

RAVAGES OF THE RED SPIDER IN THE OPEN AIR.—In our last we referred to the fact that the red spider was making fearful ravages on trees in the open air in some parts of the country. The following note from Mr. Sargent shows that we have not, by any means, sounded the alarm too soon, and our cultivators will have to exert all their ingenuity to keep down the pest:

"The red spider is devastating my place; not only the older Norway Spruces, but all my Arborvitæ hedges, the different Junipers, both old and young

Hemlocks, most of my Espalier Pears, and many of the standard Camellias, Azaleas, and Greenhouse plants.

"In addition to this misfortune, a sort of atmospheric blight or blast has tipped (killed) some half inch of each of the leaflets of all the Pines, most of the Norways, all the outside grape-leaves in blotches, many of the Oaks, and most of the half-hardies; and you may conceive how hard it is to 'kick against the pricks.'"

NAMES OF PLANTS—P. W. B., *Rock Island, Ill.*—Your plant is *Campanula*, or *Wahlenbergia*, or *Platycodon grandiflora*. The last is its strictly botanical name; the first the one it is generally known by. We do not recognize the leaf. Where a plant is not in flower, a portion of the stem should be sent with the leaves, at least. It looks like a *Veronica*.

B., *Cincinnati*.—The currants sent are not the *Versaillaise*, but the *Cherry*.

BASKET WILLOWS—J. G., *Cedar Point, Va.*—You will find the kinds and profits of willow-culture fully detailed at page 27 of present volume.

THE CORNELIUS PROPAGATING POT.—Many correspondents inquire where these can be obtained. Any pottery that makes flower-pots can make them if the order is given. Our specimen was found in the show-room of Owens & Tilton, Market Street, Philadelphia.

FOREIGN GOOSEBERRIES—J. G., *Cedar Point, Va.*—None of the Foreign gooseberries can be depended on for crop free from mildew in any part of the Union. We would not advise you to attempt their culture with a view to profit until you have tried them some years on a small scale.

STRIKING ROSES—C., *Penfield, Monroe Co., N. Y.*—In striking Rose-cuttings in the fall in a hotbed, will they need protection in the winter? If so, please tell me how I can protect them. I have no green or hothouse, but a good cellar. Will cuttings strike any better in a hotbed than in the open air? If so, at what temperature should it be kept? How can I protect flowers from frost, such as the *Petunia*, *Phlox*, *Verbena*, &c.? Please answer these questions through the *Monthly*, and oblige C.

[Having no glass, you may strike Roses by taking the cuttings as early in the fall as the wood exhibits signs of ripeness, and set them out in the open ground in a sheltered situation. On the approach of frost, cover thickly with dry leaves, and lay on a little

brush to keep them from blowing away; all of which remove when the spring-frosts are probably over.

You will do no good with *Petunias*, *Verbenas*, &c., in a cellar, unless it is very light, indeed, and then not satisfactorily. Build a small greenhouse or pit, friend C.

PEACH-HOUSES—G. B., *Lansingburg, N. Y.*—Will you inform us through your columns the best and least expensive mode of erecting and managing a peach-house?

[We should build a peach-house on the fixed-roof principle, with ventilators, precisely as we would a vinery. The least expensive mode of arrangement is to plant them in the open ground in the house, a proper border being prepared for them, over which the house is built. In addition, many might be grown in pots; but these would require daily care, and, unless you kept a gardener, (which, after all, might be the cheapest mode of management in the end,) they would be a source of trouble and annoyance to you.]

GLADIOLUS BRECHLEYENSIS—*Flowers from W. H. Spooner, Jamaica Plain, Mass.*—Very brilliant in color. One of the best, if not the best, grown.

Books, Catalogues, &c.

THE WOODY PLANTS OF NORTH CAROLINA. By the Rev. M. A. Curtis, D.D. Part III. of the State Survey.

This useful work commends itself to the public at large, for whom it was destined, by the absence of scientific technical terms. The most general reader, at all interested in the subject, will derive pleasure from its perusal.

It is interesting to note how prolific North Carolina is in ligneous plants. Dr. Gray enumerates in his "Manual of Botany" 130 trees, 183 shrubs, and 30 vines as natives of the whole Northern States. Of the Southern States, North Carolina alone numbers 112 trees, 176 shrubs, and 32 vines. North Carolina has nearly as many shrubs as the whole of the Northern United States. The Southern States have, however, a greater comparative number of shrubs over trees than the Northern United States. The whole number of trees is but 126,—four less than the North claims,—while the shrubs are forty-one more in favor of the South, it claiming 224 species.

Dr. Curtis enumerates the species by their popular names as they are known by in that State; and it is curious to note how names that are common in one State to certain plants become appropriated to others

in different States. For instance, here the Balsam Fir is the *Picea Fazerii*; the Balsam Fir of the North, *P. Balsamea*, does not grow in the State. The "Juner" is *Cupressus thuyoides*, our White Cedar. "Mock Orange" is *Cerasus Caroliniana*. The same name is also applied to *Styrax grandifolium*. "Buckthorn" is *Bumelia lycoides*. "Yellow Wood" is *Symplocas tinctoria*. "Ivy" is *Kalmia latifolia*.

Of the scarcer trees and shrubs that are as yet but little known out of scientific circles, *Buckleya distichophylla*, with thin, delicate foliage, resembling a Catalonian Jessamine, would be a desirable shrub to cultivate, though the flowers are inconspicuous.

In speaking of the Loblolly Pine, (*P. Tæda*), Dr. Curtis describes a variety peculiarly marked, that has, until quite recently, escaped the observation of the botanist. It is called by the residents *Slash Pine*.

Most of the trees and shrubs that inhabit North Carolina are hardy here, and we are sorry that we have so few of these beautiful plants in our gardens. The following are very desirable, and we hope yet to see them more generally cultivated:—*Pinus serotina*, *P. Tæda*, *P. australis*, *Quercus lyrata*, *Q. aquatica*, *Fraxinus platycarpa*, *Bumelia lycioides*, *Andromeda arborea*, *Tilia heterophylla*, *Gordonia lasianthus*, *Rhododendron punctatum*, *Azalea arborescens*, *Styrax grandifolium*, and *Cyrilla racemiflora*.

HAND-BOOK; or, Annual Record of Horticultural and Agricultural Statistics. By W. P. Sheppard. New York.

This is a compilation of facts, collected principally from French journals, the *London Gardener's Chronicle* and our *Gardener's Monthly*; and, being thus presented in one view, cannot fail of being very useful to all in or having dealings with the seed or nursery trade. We hope it will remunerate the publisher, and improve annually.

"DIE FARMER ZEITUNG." Published at Martha-ville, Mo., and Edited by Frederick Munch.

It is printed in the German language, and numbers amongst its contributors our correspondent, Mr. George Hussmann, and many other of the best agriculturists and grape-growers of the day.

NURSERY CATALOGUES.—WHOLESALE.

M. B. Bateham & Co., Columbus, O. With numerous testimonials from satisfied customers.

Joseph Taylor, Newport, Ky.

W. T. Bower, Sharonville, O.

Hooker, Farley & Co., Rochester, N. Y.

E. J. Evans & Co., York, Pa. A fine list, which is, besides, a model of accuracy.

DESCRIPTIVE.

Prince's Strawberries, Flushing, L. I., describes 150 kinds, and occupies 16 closely-printed pages.

P. H. Baker, Greenville, Ky. A somewhat new, but energetic, firm.

J. W. Manning, Reading, Mass.

Tull, Lionberger & Co., Dallas, Ill. Mostly fruits, but also a fair assortment of ornamental trees and shrubs.

Andrew Bridgeman. Bulbs. Mr. Bridgeman's assortment seems as well selected as it is extensive, judging by the kinds here offered.

Mark D. Wilson, West Bloomfield, N. Y. Fruits, &c.

Railsback & Hutton, Richmond, Ind. Fruits and Ornamentals. Amongst the latter, the Roses make quite a fine show.

Maxwell & Bro., Geneva, N. Y. Fruit and Ornamentals.

P. J. Berckman's & Co., Augusta, Geo. Fruit and Ornamental Trees, Shrubs, Vines, etc. One of the most complete catalogues issued in the South.

Frost & Co., Rochester, N. Y. Entirely Fruits. 54 pages.

Ellwanger & Barry, Rochester, N. Y. Ornamental Trees and Shrubs. 68 pages.

New or Rare Plants.

ALOCASIA METALLICA (*Bronze-leaved Alocasia*).—Received from Borneo by Messrs. Low, of the Clapton Nursery. It "exhibits a foliage and hue which nothing of the kind can exceed; there is a degree of metallic lustre on the ample foliage which must be seen to be understood."—*Botanical Magazine*, t. 5190.

ACACIA DRUMMONDI (*Drummond's Acacia*).—Native of Swan River. Flowers pale lemon yellow in cylindrical spikes.—*Ibid*, t. 5191.

CALLIXENE POLYPHYLLA (*Many-leaved Callixene*).—Known also as *Luzuriaga erecta*. Native of Cape Tres Monthes, in the extreme south of Chili. It belongs to the same natural family as the Lily of the Valley, having like it white flowers; but these resemble more in form the flowers of *Deutzia scabra*. It may be kept in a cool greenhouse or common frame.—*Ibid*, t. 5192.

ONCIDIUM LONGIPES (*Long-stalked Oncidium*).—Native of Brazil, reared by Messrs. Loddiges. Its flowers are more bright in color than the *O. longipes* of Dr. Lindley. It blooms in April, and the flowers, yellow and purple, continue long.—*Ibid*, t. 5193.

PTERIS CRETICA (*Cretan Pteris*).—It has had many other specific names. Although called Cretan, yet it is found from Turcomania throughout southern Europe, the Mediterranean Islands, Arabia, Abyssinia, and even India, Pacific Islands, and in both North and South America. So that no other fern is so cosmopolitan, and fully illustrates the unadvisability of

calling any plant after the place where it was first discovered. Its pinnæ are striped with pale and dark green, somewhat after the manner of Ribbon Grass. —*Ibid*, t. 5194.

SELAGINELLA ATRO-VIRIDIS (*Lycopodiaceæ*).—This is a distinct-looking species, green, with flabellately-arranged branches, which are ramified in a dichotomous manner, and recurved at the tips. It appears to be a dwarf kind, and to have most resemblance in habit to the kind known as *S. Peppigiana* in gardens, but is quite distinct from that and every other kind. Introduced from Borneo by Messrs. Veitch & Son.

SELAGINELLA LOBBII (*Lycopodiaceæ*).—A new and extremely ornamental *Lycopod* of tall-growing habit, the main stems producing alternate branches, which, from being quite flat and pinnately branched, and having the branchlets close-placed, have much resemblance to Fern fronds; these branches are of a fine blue metallic tint, similar to that which occurs in some other species of this family. Introduced from Borneo by Messrs. Veitch & Son.

IMPROVED NEW CHRYSANTHEMUMS.—Fanny, orange red, a very free bloomer, makes a good pot plant.

Emily, very fine bronzed rose.

Christiana, fawn tipped with orange, good form and habit.

Edith, rosy salmon, very pretty.

Mrs. Turner, fine pure white, hybrid pomponé, of good shape and habit.

Eva, canary yellow, bronze centre, delicate color, free blooming.

Madame Pepin, chestnut, very fine.

Miranda, fringed rose, quite a ball, but the fringe gives it rather the appearance of being nibbled.

Distinction, creamy white, much the shape of that fine flower, Madame Fould.

Musidora, mottled orange and chestnut, small and pretty.

Jane Amelia, dark rosy carmine, in colour between Riquiqui and Salomon, free bloomer and excellent form.—(*Turner's Florist*.)

ASPLENIUM GLABERRIMUM.—A new tree fern from Java. Is selling in London at *twelve dollars* each.

The following are advertised in the English journals:

GERANIUM METEOR.—Dwarfer and more compact than Tom Thumb; foliage medium size and flat, broad margin of silvery white; trusses large, on strong foot-stalks, and well above the foliage; abundant bloomer, flowers brilliant scarlet, fine form.

TYDÆA FORMOSA.—A distinct and beautiful variety; habit dwarf and compact; very abundant bloomer, the flowers being produced on strong foot-stalks in bunches of about six in number from the

axil of each leaf; rich crimson tube, expanding to a broad two-lipped limb; ground-color rosy lake, densely spotted with rich crimson purple. It has continued to flower abundantly since October last.

BEGONIA BLANDA.—Olive green and bright silvery grey, the latter color predominating; markings similar to Charles Wagner and several others in that section, to all of which it proves superior under similar cultivation.

NEW PLANTS EXHIBITED AT THE BOTANIC GARDEN, REGENT'S PARK, LONDON, JULY 6.—Messrs. Veitch sent *Caladium Veitchii* and *Wightii*, both handsome additions to that ornamental class of plants; *Vaccinium rugosum*, described by us in a former number, and two beautiful *Gloxineas*, named Apollo and Jupiter. From Mr. Ingram, gardener to J. J. Blandy, Esq., came *Hæmanthus puniceus*, not new, but rarely seen in such beautiful condition as it was on this occasion, its large scarlet balls of flowers attracting numerous admirers. Mr. Woolley had a yellow-flowered *Dendrobium*, apparently new, and Messrs. Parker & Williams, *Anthurium rubro-nervium* and *Tyda insignis*, the first a fine-foliaged plant, and the last a pretty variety in its class. A fleshy-leaved plant labelled *Senecio*, from New Zealand, came from Mr. Standish, of Bagshot; and Messrs. Low had a variously-colored *Petunia* and other plants described by him in former reports. From Messrs. E. G. Henderson also came some handsome *Petunias*, remarkable for the singularity of their colors. *Statice profusa* was shown by Messrs. Parker and Williams, a variegated *Callea* and *Agathea* by Messrs. Backhouse, and the handsome *Pteris tricolor* and other plants by M. Linden, of Brussels. Messrs. E. G. Henderson and Messrs. Milne & Co. had some beautiful new *Gloxineas*; among them, Reuben, Lady Willoughby, and Mrs. Shepherd were really all that could be desired in that class of plants. We also noticed *Orchis foliosa* again shown in beautiful condition, the showy *Gazania splendens*, *Dianthus Hedde-wigii*, and one or two dwarf *Tropæolums* and *Phloxes*.

CORDYLINE INDIVISA attains a height of from ten to twenty feet, in an erect and undivided trunk, on which the foliage is retained with vigor almost to the ground. The leaves are set on to the greatest advantage, and measure from five to six feet in length, and from six to nine inches in breadth. Their color is of the richest description: a broad and prominent midrib of crimson-brown runs through the entire length, and numerous red and white lines run parallel to the midrib; the whole surface is overlaid with a rich golden bronze, producing an elegant effect. The under side of the leaves is glaucous. The whole tree is unsurpassed in noble and unique work.—*Gardener's Chronicle*.

HYDRANGEA CYANEA.—A new species, with woolly leaves, and blue flowers with pale rosy calices. Said to be very distinct and desirable.

NEW VEGETABLES.

PEAS—*Berkshire Hero* (Sutton's).—The largest and longest-podded pea in cultivation; distinct from all others, and of excellent flavor. This kind should be planted like beans, or sown singly, half an inch apart.

CELERY—*Manchester Champion* (Dickson's).—This is highly spoken of. It is a red variety, grows very dwarf, rarely exceeding twenty inches in height, of superior color, and delicate nutty flavor, very solid and crisp; requires less earthing-up than most sorts, and keeps well up to the end of the month of April.

New and Rare Fruits.

PAULINE GRAPE.—Some doubts having been expressed as to the identity of this Grape, Mr. J. P. Berckmans says, in the *Southern Field and Fireside*:—The grape called Pauline has been cultivated many years in South Carolina, and more especially in the vicinity of Aiken, under the name of Burgundy. In fact it is extensively cultivated for wine making—Dr. McDonald and Mr. de Caradeuc having sold Pauline wine, years ago. Its present name of Pauline was given to it, in honor of a daughter of Mr. de Caradeuc and to do away with the name of Burgundy which would have implied it to be a foreign variety, whereas it is a pure native. Its season of maturity is middle to last of August, it is a better grape than either the Lenoir or Warren.

ELIZABETH GRAPE.—Originated on the farm of James Hart, near Rochester fifteen years ago, and the "*Rural New Yorker*," says is in good repute in that neighborhood. It is a white grape, and the bunch compact like a Rebecca in size and shape in the cut given.

"The bunches and berries both resembled the Isabella in size and form; skin thin; color greenish white, with a slight purple tinge in the sun; very little pulp. The flavor was good, better than Isabella, we thought at the time, somewhat acid, but pleasant."

CUTTER'S SEEDLING STRAWBERRY.—At page 173 of last volume we gave some account of this variety. It was found accidentally by Mr. B. F. Cutter, of Pelham, N. H., the seed having, probably, been dropped by birds. It has been now fifteen years under cultivation, and it is claimed for it that, being a hermaphrodite, it is a better bearer than Hovey,

Wilson's Albany, and others; commences to ripen on the 12th of June, and continues from six to ten days longer. It appears to have been better tested before sending out, than some of the new ones, and may certainly not be less in value on that account.

HARTFORD PROLIFIC GRAPE.—Has proved the earliest of all kinds cultivated in the South. Ripe in Macon, Ga., 27th of June.

ALBION WHITE BLACKBERRY.—We received some berries from Mr. Orange, which unfortunately did not reach us in good order. But they afforded sufficient evidence to give us a very favorable opinion of their value.

Domestic Intelligence.

SALE OF PEACHES.—Mr. James M. Whitney, one of the most extensive peach growers in Western New York, has sold the entire crop of his orchard at Rochester, at \$2 per basket; the purchaser to pick them, himself, from the trees.

BALTIMORE PARK.—The Commissioners have selected a site for the new Park in the north-western part of the suburbs. It comprises 537 acres of land, at a cost of \$541,300.

LARGE WATERMELON "PATCH."—A market gardener in southern Indiana has 1700 acres, planted in watermelons for the Cincinnati, Louisville, New Albany, St. Louis and Chicago markets.

LARGE PEACH ORCHARD.—We are informed on the best authority, that there is a Peach Orchard on the Eastern shore of Maryland, that contains 600 acres. The net profit of which was last year \$40,000 and that the owner was offered \$60,000 for the crop of this year, the purchaser to pick the fruit and take it to market.

WATERMELON MOLASSES.—Having been engaged the last season in raising watermelons and making them into syrup, I thought a description of my mode of operation might be acceptable to some of your numerous readers. I think that the Watermelon will not make sugar, in consequence of the waxy properties of the syrup when boiled to that consistency; but for the syrup, it has no equivalent for preserving all kinds of fruit with which our country abounds.—It is also excellent for table use. The process is very simple. I express the juice by hand, by putting the core of the melon in a sack; then boil to a proper consistency in a copper kettle. From experiments which I have made, I think that we cannot get a

better return for our ground than by this process. I made from one acre of ground, the last season, eighteen barrels of syrup. I sold this for eighty cents per gallon, which made four hundred and forty-six dollars for my labor. Now I am aware that this will seem incredible to a great many who have not tried the experiment; but nevertheless, it can be done, and if any one doubting it will call on me, I will convince him of its entire practicability.

C. H.

ROSS COUNTY, OHIO.

[Exchange.]

NURSERIES AT COLDWATER, MICHIGAN:—Mr. H. C. Gilbert, has 76 acres under Nursery culture, 59 of which are occupied by the fruit department. He commenced three years ago.

Messrs. G. H. White & Co. commenced in 1859 and have sixty acres.

Mr. Lincoln has 20 acres.

Messrs. Brown, Clighue & Hunt, H. M. Wright and J. P. Parsons, have also establishments in the immediate vicinity, all bidding fair to make their village one of the "Rochesters" of America.

Recipes of Fruits & Vegetables.

"The lady who contributes a good recipe for the public benefit, deserves as much credit as he who introduces a new fruit or vegetable."—*Good Authority.*

THE BEST TOMATO PICKLES.—Take one peck of green tomatoes, sliced, one dozen onions, sliced also, sprinkle them with salt, and let them stand until the next day, when drain them. Then use the following as spices: One box of mustard, one and a half ounces of black pepper, one ounce of whole cloves one ounce of yellow mustard seed, one ounce of allspice. Put in the kettle a layer of spices and one of tomatoes and onions alternately. Cover them with vinegar, wet the mustard before putting it in; let the whole boil fifteen or twenty minutes, and you will have pickles so good that you will be pestered by all your friends and neighbors asking you for a taste of them and a recipe.—*Ohio Cultivator.*

PRESERVING PEACHES.—Pare the peaches, weigh them, and take the same weight of sugar; boil the syrup until it is clear, then turn it over the fruit; let it remain for one night, then take out the fruit upon flat dishes; boil the syrup again, and pour it over the fruit in the jars; again pour off the syrup and boil it—this to be repeated for four successive days—the jars not to be closed until the whole is thoroughly cold.—*Wisconsin Farmer.*

TOMATO CATSUP.—To a half-bushel of skinned

tomatoes, add one quart of good vinegar, one pound of salt, a quarter of a pound of black pepper, two ounces of African cayenne, a quarter of a pound of allspice, six onions, one ounce of cloves, and two pounds of brown sugar. Boil this mass for three hours, constantly stirring it to keep it from burning. When cool, strain it through a fine sieve or coarse cloth, and bottle it for use. Many persons omit the vinegar in this preparation.

TO MAKE A LEMON PIE OUT OF TURNIPS.—Take a turnip and pare and boil it, add a teaspoonful of tartaric acid and a cup of sugar, season and bake as an apple pie.

Foreign Intelligence.

STRAWBERRY FORCING.—Early in September I make a plantation of the best runners I can get, expressly for the purpose of supplying fine early runners for potting next summer. The ground is preferable if light and in a warm situation. It is well manured, and the runners planted in lines two feet apart, but only six inches between the plants in the row. This close planting I adopt simply for the sake of getting the necessary stock for forcing in as small a space as possible, as it is much more convenient for both laying them and attending to them in the way of watering after they are laid. These autumn runners throw out fine, strong runners early in the season, and these are the runners chosen for the forcing plants. In ordinary seasons they are ready to lay by the end of the first week of June, which is earlier than I have been able to get runners from plants forced the same spring and then planted out; and in ordinary cases, runners from old plantations are wiry, and not at all likely to make fine plants, whereas I have always found autumn-planted runners to throw out, not only early runners, but fine sappy runners, full of growth and energy, if I may so speak. As soon as these runners are large enough to handle, the necessary number of 2½ or 3-inch pots are firmly filled with equal parts of friable loam and well-decayed leaf-mould, sifted through a ¾-inch sieve. They are filled in the compost-shed and carried to the border, and plunged in rows up the centre of the space between the lines. A single runner is then laid on the surface of each pot and gently pressed into the soil, taking care not to bury the centre or heart of the runner. A small stone is then laid on the stem immediately behind the runner or young plant, to keep it firmly in its place. A peg answers the same purpose; but the stone is the most expeditious way, and it prevents, to a certain extent, evap-

oration in dry weather. A watering is then administered through a tolerably fine rose, sufficient to wet the soil in the pot through, and during dry weather they are regularly watered every afternoon, and all runners thrown out beyond the young plant in the pot is removed as soon as they make their appearance. In about three weeks from the time they are laid in the small pots they are generally ready for their fruiting-pots. I am never satisfied if I have not shifted them into their fruiting-pots before the end of the first week in July, especially if they are required for early forcing.

The size of the pot which I use for fruiting them in are 5-inch and 6-inch—the former size for all plants that are to be fruited before the first of April, and the latter for those fruited later in the season. I have always found that in small pots they throw up their bloom-stalks more strongly, set better, and yield as fine fruit as in the larger size; and the only reason why I use 6-inch pots at all is, that after April sets in they require a deal of water, and are more troublesome in this respect in the small pots than in the larger size.

The soil I use for shifting them is a friable loam with a third of well decayed hotbed or old mushroom bed dung, and a little soot and coarse sand. And contrary to my general practice in comparing compost for potting, I always sift the loam through a coarse sieve, for this reason that I like the soil pressed into the pot as firmly as I can get it, and when of a coarse and more spongy nature this is not so well accomplished; it moreover facilitates the operation of potting. The pots should either be new from the pottery, or as well scrubbed and clean as brush and water can make them. The young plants should be so well rooted that you can lift them by the leaves without endangering the destruction of the balls.

In potting them, the soil should be crammed into the pot as firmly as thumbs and fingers can make it, and great care taken that the heart of the plant be left quite clear.

When shifted they are allowed to stand in a slightly shaded situation for a few days, and are then removed to the hottest and most sheltered place at command, where they can have the full blaze of the sun all day long. I generally place them on a raised trellis work for the double purpose of preventing worms from entering the pots and the roots from rooting through into the soil. They should have as much room as will allow each plant to stand quite clear of its fellow. In this position they must never be allowed to become dry. The pots being well crocked, and the soil in the pots so firmly pressed, there is little danger during the summer and early autumn of over-watering them. All runners and weeds are removed as soon as they appear, and as

soon as the pot is tolerably well filled with roots they are watered every other time with guano or dung water, and always sprinkled over head every fine evening with clean water, which keeps the foliage clean, and refreshes the plant after a hot day. By the end of September the ball, when turned out of the pot, appears literally roots and nothing else, and you might throw it across the garden without breaking it. This, with a firm crown like the end of your thumb, is the proper criterion for a Strawberry being in a proper condition for forcing. Should the weather prove very wet in October, I generally lay them down on their sides to escape a long continued state of saturation, and before frost sets in, I have them put under cover of cold frames, and their pots plunged in coal ashes or sand with good drainage below. The lights are drawn off every fine day, and put on and tilted up at the back during rain. A sharp frost will do them no harm. The pots being plunged, the roots are safe, and all that is necessary is a single mat during very severe frost, and in such quarters they are quite safe till required for forcing.—*Scottish Gardener.*

Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The Society held its usual monthly meeting on August 21st. The Schedule not offering premiums for July and August, there was no display at either of those meetings.

Mr. Pollock, gardener to Mr. Dundas, however, brought a very beautiful and perfect flower of the Victoria Regia; Mr. Matheson, gardener to F. Yarnall, a bunch of Black Hamburg Grapes, weighing about eight pounds, berries large and well colored, and Mr. Noble several specimens of pears of good size and appearance.

We have been informed that the flower of the Victoria Regia exhibited by Mr. Pollock, flowered in a tank or basin in the open garden.

The Committee on Exhibition offered a resolution, which was adopted: That the competition for the premiums offered in the Schedule for September take place on the evening of the regular Stated Meeting of the Society, on September 18th.

This action was rendered necessary, on account of the impossibility of procuring a room at all suitable for the large annual exhibition that was contemplated; had the Committee been able to secure the proper accommodations for the display that was anticipated, one of the largest and most brilliant collections would have been brought together that has ever been exhibited in Philadelphia. There will we doubt not, be a very excellent display at Concert Hall in September, to which we invite the attention of the friends of the Society.

CINCINNATI HORTICULTURAL SOCIETY.

AUGUST 4TH.

FRUIT COMMITTEE—AD. INTERIM REPORT.

To the President of the Cincinnati Horticultural Society:

SIR:—Your committee have, since our last report, visited, by invitation, the grounds, and examined the fruit growing on the trees of the several members, as follows:

Mr. J. E. Mottier—Dwarf Pears.—Mr. M. went into their cultivation a few years since, and they have been steadily growing in favor with him, till he has now several hundred trees, varying in age from three to nine or ten years old, and with very few exceptions, in the most satisfactory condition; many of the older ones loaded down with fruit. The Bartlett and Louise Bonne de Jersey are Mr. M.'s first favorites in the order they are placed.

Apple Orchard.—This we found in a most flourishing condition, and Mr. M.'s worthy sons were busily engaged in picking fruit for market, of Summer Queens, Sweet Junes, Early Strawberry and

Benoni. Mr. M. was one of the first to discover the high quality of the Benoni, which is steadily gaining favor, and taking rank as the best variety of its season, whilst its very handsome appearance, as grown by Mr. M., would attract attention anywhere.

The vineyards show the effects of Mr. M.'s superior cultivation in the abundance and quality of the fruit, as well as in the vigorous growth of wood, giving promise of the ability of the vines to bear a heavy crop next season. There were some evidences of the rot up to the time of our visit; we should judge a fifth part of the crop had been lost. The Delaware—such faith has our experience! *Vigneron* in the sterling good qualities of this comparatively new candidate for public favor, that he has, the last season, planted out a vineyard of fifteen hundred vines, notwithstanding the high prices the vines have commanded. Your Committee deem this fact one of the most conclusive evidences of its merits that has come under their observation. Time would not allow your Committee to note all the desirable practical matters worthy of comment in our friend's grounds, and we conclude with one important item to the amateur grape-growers in this region. Mr. M. is opposed to the continued shortening in of the lateral growths through the summer, finding the growth of the leaves a help to the vigor of the plant, and thin shade a help to the maturity of the fruit.

M. McWilliams, Esq.—Mr. M. has long been known as one of our most continued and successful competitors for premiums in fruits at our Horticultural Exhibitions, especially in pears. It was from Mr. M. we first became acquainted with the appropriate name of the Flemish beauty, which, as grown by him, is a real beauty, its bright amber-colored skin being painted, on the side fully exposed to the sun, with the most brilliant carmine, fixing the attention as far as the range of vision will command. The Bartlett, Onondaga, Beurre d'Anglies and Vicar of Winkfield, are all special favorites with Mr. M., and the trees are generally bending under the weight of fruit. Dwarfs and standards seem to do equally well here; passing from the house to the roadway, some care is necessary to guard the cranium from injury from contact with his White Pippins, which hang in dangerous proximity to the path. In apples, Mr. M.'s first favorite is White Pippin; second, White Pippin, and we believe it is also his last.

From hence we proceeded to Mr. Diserens', about one mile below, where we found a fine, thrifty orchard of standard pears, a fruit the inspection of which was our special object. The trees were in fine, vigorous condition, but in the opinion of your Committee, most awfully maltreated by the cruel manner in which they have been pruned, several of them exposing a naked stem some ten feet high, without a branch or leaf to protect or shield them from the glare of the sun's rays, which was nearly hot enough to broil your representatives, while commiserating the helpless condition of the pitiable objects before them. (Please, Mr. D.—do allow your pet trees to put some clothing on their lower extremities.) Notwithstanding these disadvantages, the trees were generally in a healthy condition, and many of them bearing fine fruit. The Bartlett, especially, here as elsewhere, stood pre-eminent among its fellows for its loads of large, fair, and tempting-looking fruit. The dwarf pears, here, had been served in the same ruthless manner as the standards, every lateral branch cut off up to four or five feet from the ground, suggesting the notion to your Committee that the operator must have been a practical butcher.

F. Fekstein's, Esq., was the next place visited. The trees here found were planted by the late David Loring, one of the earliest members of this Society, and we had here an opportunity of judging of the state of pomological knowledge in this vicinity, twenty years back. We here found one standard tree of the Louise Bonne de Jersey, with a good crop of fruit, and would here solicit that Mr. E. save some specimens until they are ripe, for the benefit of the community, by this Society having the opportunity of judging the merits by comparison with those grown on Dwarf trees. Here we found White Doyenne, Napoleon, Heathcote, Urbaniste, Summer Bon, Chretien, Vicar of Winkfield, Beurre d'El, with several other varieties, of contemporary renown; of course, including the Bartlett, of which variety here are larger specimens than we have elsewhere seen, and, as everywhere else, overburdened with loads of fruit. Our visit to these several places strikingly demonstrated one fact, viz: That although we may not, in multiplying varieties, have improved on the qualities of the old favorites, of twenty or thirty years back, as the Seckel, White Doyenne and Bartlett, we have much increased the number possessing their superior excellencies, extending the period of enjoying, and enhancing the varieties of our luscious favorites.

Gen. M. S. Wade's.—The General has for many years maintained a high reputation for the handsome specimens of fruits exhibited before this Society; and the appearance and condition of his trees, with their loads of noble fruits, this season, give substantial evidence of the degree of care and skilful management with which his trees are treated, and well do they promise to pay him for such care and skill. We would like all the opponents and detractors of Dwarf Pear trees to see Gen. Wade's specimens, as they appear this season, and if, after such a sight, they did not admit that Dwarf Pears were most eminently worthy of commendation, we would give them up as incorrigible grumblers, or liken them to the reptile who would not listen to the voice of the charmer, (charm he never so wisely.)

The General can point to some remarkable instances of the improvement or amelioration of the fruit of certain trees in his grounds, by a skilful and judicious course of treatment, one case of a White Doyenne, (standard) which bore gnarly, cracked, and imper-

fect fruit, such as it is generally condemned for. Our friend had the tree dug round, an application of ashes and other manures on the surface, and a deep trench, cut from near the base of the tree, to serve for a drain, which he partly filled with brush. The tree shortly after started into vigorous growth, and has annually borne crops of fair, sound fruit since, and at the present time is loaded with a bountiful crop. A large Swan Apple tree was renovated in the same way.

Plums and the Curenlio.—The General feels confident that he has beaten this insiduous enemy. His forces are all army of ducks, chickens and guinea fowls. In the latter he has as much confidence as another celebrated general had in the invulnerability of his Old Guard. So confident is the General of his ability to conquer his enemy, that he designs enlarging his field of operations by planting more Plum, Apricot and Nectarine trees. The appearance of his Plum and Nectarine trees as at present loaded with their burdens of tempting-looking fruit, would, we believe, set Pomona's mouth watering.

We should have mentioned in its proper connection, that the General advocates and practices a judicious use of the pruning knife in his treatment of young trees—not indiscriminate—for he pointed to specimen trees which scarcely ever needed it. We can assure the members of this Society that in General Wade's example in his management of fruit trees, they have a model they might safely copy after, and hope he will continue to benefit the members of this Society, and through them the community at large, with the results of his matured experience.

WM. HEAVER, Chairman.

HORTICULTURAL SOCIETY OF MORRISANIA, N. Y.

Will hold its fourth exhibition on the 3d and 4th of October, under favorable auspices for success.

FRUIT GROWER'S SOCIETY OF EASTERN PENNSYLVANIA.

We learn from the Secretary of this Association that the next meeting will be held at the same time and place, as that of the Pomological Society. Namely, the Assembly Buildings, Sept. 11th. We hear that an immense collection of grapes with other fruits, will be in all probability exhibited by the members, and the efforts of both Societies, be much aided by the united efforts of the two.

FRANKFORD WORKINGMEN'S HORTICULTURAL SOCIETY.

The Onion show came off on the 28th of July, being pretty well attended by exhibitors, and others. C. Broadhurst, took first prize for Yellow Strasburg; J. Threlfall, second. For White Silver, J. Threlfall, first. J. S. Lard, second. C. Broadhurst took the first prizes for Seedlings. R. Scott, second.

UNION AGRICULTURAL AND HORTICULTURAL SOCIETY OF TRUMANSBURG, N. Y.

Holds its annual meeting on 11th, 12th, and 13th. It is one of the best managed in the country, and we hope will be well supported. The premiums offered in the Horticultural department are very numerous.

AMERICAN WINE GROWER'S ASSOCIATION.

The regular monthly meeting of the Society was held July 23. President, N. B. Shaler, in the chair.

Mr. Robert Buchanan observed that the wine crop would this season be a fair average one. The vintage was a little early, but not two weeks, as had been supposed. Since the last meeting, he had received Mr. Bright's book, in which the present system of vine-growing was denounced as false, and that more shallow planting should be adopted.

They were not in the habit of practising deep planting. They planted about the proper depth, and were not inclined to change.

Dr. Shaler remarked that he could show this writer where the roots of vines had worked their way through rock (marl, or shale) for a depth of fifteen feet.

Mr. Howarth remarked that there was a medium between the shallow and deep planting, which it would be well to learn and follow.

"This medium, Mr. Howarth," observed Mr. Buchanan, "we are now practicing. Experience, said he, is our best guide; it is better than any theory, and the result of our practice evinces its correctness."

Several members spoke of the Grape rot as prevailing to some extent; but on the whole the crop was considered satisfactory.



A VIEW OF THE WINTER-GARDEN

of E. H. KRELAGE & SON, at Haarlem, Holland.

THE ROTUNDA AND OPEN GALLERY.

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs

THOMAS MEEHAN, Editor.

OCTOBER, 1860.

VOL. II.—NO 10

Hints for October.



FLOWER-GARDEN & PLEASURE-GROUND.

The first two weeks in October will be the great tree-planting month of the fall season; and, as we have last month stated, the operation cannot be proceeded with too rapidly. In this region, at least, after the end of this month, every day's delay increases the risk of loss by the severity of winter; and, after the 15th, we would not care to plant evergreens, unless they were comparatively small, and the operation conducted with great care. Occasionally great success follows later planting,—owing more to good luck than sound judgment. Where planting is, of necessity, delayed, the risk is made less by pruning. The later a tree is planted, and the more exposed the situation, the more in proportion should it be pruned. It has become a pretty well settled axiom in American gardening, that the way frost acts in destroying fall-planted trees is by excessive evaporation, by which the moisture is dried out of them; and this is to be obviated by shelter from cold winds, protection from the sun's rays, pruning, and other ways, which will suggest themselves to the reader according to his peculiar circumstances.

All operations connected with ground-work are now being pushed forward rapidly,—grading, road-making, lawn-making, and so on. So much has been said of lawn-making in our past issues, that little remains to be said here. One of the newest improvements in sodding a lawn is not to lay the pieces of sod close to each other. Pieces can be cut into any size or shape and laid down several inches from each other, the soil being loosely thrown aside by the trowel to make the surface of the sod and the surrounding soil be nearly level. On a large scale, a wide drill which any ingenious laborer could construct, or even a shallow furrow with a plough, as in "marking out" for a corn-crop, might be employed,

and the pieces of sod, about six inches square, set in four or six inches apart. A bush-harrow afterwards drawn over the lot, levels the loose soil in the spaces between the sods, and the roller afterwards passed over the whole makes a good, firm, plane job. When the grass commences to grow in the spring, it soon spreads into the unoccupied spaces; and before midsummer, the whole becomes one uniform sheet of grass. This method, which may be called sodding by inoculation, saves just one-half the cost of sodding by the usual mode, and is very near as good, in fact, quite as good, after a few months of time, and costs very little more than seeding-down, which, except under the management of one who thoroughly understands his subject, is one of the most unsatisfactory of all regular modes. Where seeding-down is to be the mode, now is the time to see about it.

The greatest difficulty we have to contend against in making good lawns is the coarse, rank weeds with which most parts of our country abound; and no effort that can be made to guard against their introduction, or to provide for their eradication at the outset, will be ill spent. It is often an easy matter at first; but after they have once been suffered to establish themselves, it is often better to dig or plough up the whole surface and lay it down anew. Sometimes much may be accomplished in old lawns by digging out the weeds with a trowel or spade, filling up the holes with soil, into which the grass will soon run and obliterate the traces of the work. We saw a lawn of quite considerable extent last spring treated this way, that, by the use of annual top-dressings of stable-manure had been nearly ruined by the profuse introduction of orchard-grass, but which was renewed to its former beauty by the employment of a man three days in this way.

In all our operations, *saving labor* should be our first consideration,—not that kind of labor-saving which half does an operation; but which will produce an equal result at a less cost. The introduction of grasses that will always remain green, and yet grow so slow as to require little mowing, is one of the new features in this line. Experiments are wanted with many kinds of native plants that are to be found in most localities. Of course, all those who propose new improvements or try novel experiments

will be laughed at and pointed out as "humbugs;" but that should not deter any one from following the path of progress. The *Spergula pilifera* (in recommending which to our readers' attention as well worthy of trial, we almost stood alone,—and which we did simply from analogy; several of our native plants of allied forms growing greenly and compactly on the driest and most rocky places) proves with us to stand our hottest suns and coldest weather, and all that is now wanted is experiments in actual lawn treatment. Should it answer as well as it promises, a lawn can be very cheaply made of it by the inoculating process before described.

Hyacinths, Tulips, Crocuses, and hardy Dutch bulbs generally, must have immediate attention. Crocuses and Snowdrops are often planted out in the grass on the lawn; the former is not very objectionable, as the leaves have so close a grass-like appearance; but the last should never be so employed, the foliage giving, the whole summer afterwards, a very coarse and weedy appearance to the lawn.

Hyacinths and Tulips may be set out in the beds devoted to summer-flowering bedding-plants, as they will, in a great measure, be out of flower before the bedding-time comes around, when they can be either taken up and transplanted to an out-of-the-way place to ripen, or the bedding-plants can be set in between where the bulbs grow, without either much interfering with the success of the other.

As a manure for these bulbs, nothing has yet been found superior to well-decayed sandy, cow-manure; but where this is not conveniently at hand, well-decomposed surface-soil from a wood will do as well.

Many kinds of hardy annuals flower much better next spring, when sown at this season of the year. A warm, rich border should be chosen, and the seed put in at once. Early in spring they must be transplanted to the desired position in the flower-border.

Few things are more valued in winter than a bunch of Sweet Violets. A few may now be potted, and they will flower in the window toward spring; or a small bed of them may be made in a frame, which should be protected by a mat from severe frost. To have Pansies flower early and profusely in spring, they may be planted out in a frame, as recommended for the Violet.

Herbaceous hardy border-flowers are often propagated in the fall by dividing the roots; but, unless it is convenient to protect the newly-made plants through the winter, it is better to defer this till spring, as the frost draws out of the ground and destroys many. Where it is now resorted to, a thick mulching of leaves or litter should be placed over the young stock when transplanted.

Chrysanthemums now in flower should have their names and colors rectified, against the time when

in spring they may have to be replanted, when they can be re-arranged with accuracy and satisfaction, according to the owner's taste.

Dahlias, Gladiolus, Tuberose, and other plants that require winter protection for their roots in cellars, should be taken up at once on their leaves getting injured by the first white frosts. The two latter should be pretty well dried before storing away, or they may rot. Dahlias may be put away at once.

GREENHOUSE.

Bulbs for flowering in pots should be planted at once. Four or five-inch pots are suitable. One Hyacinth and about three Tulips are sufficient for each. After potting, plunge the pots over their rims in sand under the greenhouse stage, letting them remain there until the pots have become well filled with roots, before bringing them on to the shelves to force.

Where many flowers are desired for bouquets in winter, a good stock of such as flower easily should be provided, especially of white-flowering kinds, without a good sprinkling of which a bouquet has but a very common-place look. *Deutzia gracilis* and *D. scabra*, *Philadelphus*, and *Tamarix* are very good hardy plants to pot for winter-flowering. The *Iberis sempervirens* is also a splendid white to force for its white flowers. *Lopezia rosea* is nearly indispensable for giving a light, airy gracefulness to a bouquet; and *Camellias* and *Azaleas* cannot possibly be done without.

Many kinds of annuals also come well into play; amongst other things, *Phlox Drummondii*, Sweet Alyssum, *Collinsia bicolor*, *Schizanthuses*, *Mignonette*, and *Nemophilla* are essential.

We alluded to these matters last month, but there will yet be time enough to attend to them if they have been neglected.

There are but few things in the greenhouse that will require special treatment at this time. *Camellias* and *Azaleas*, as they cease to grow, will require less water; but it is now so well known that moisture is favorable to growth, and comparative dryness favorable to flowering, that we need do no more than refer to the fact.

To watch for the first appearance of insects of all kinds, is one of the chief points of immediate interest in plant-culture. If they once become numerous, it is often better to throw away a plant entirely than to doctor it after the old methods. Much is said in the praise of some new compounds for the destruction of insects; but nothing can be more simple or effectual than the *Gardener's Monthly* compound. The following is the recipe:

Aqua font., one tin-boiler full,
Carbo calefacit. $\frac{1}{4}$ peck.

The former is placed over the latter out in the open air, and when a thermometer, placed in the former, indicates 130°, the plants are inverted and dipped in for four or five seconds. A whole house full of plants can thus, with a man and boy, be operated on in a few hours. Scale, green-fly, red-spider, *et genus omne*, fall before, or rather under, this miraculous compound. To be sure, it is nothing but hot water, but under so common a name it will never become popular or useful. Our people mostly prefer something mysterious that they have to pay high for; and if it come from the uttermost ends of the earth, so much the better.

It is not only "Love"

— who sees

No gain in trophies won with ease."

It is equally a question whether horticulturists value much whatever good they may get for nothing.

FRUIT GARDEN.

There is considerable art in raising fruit; but there is as much or more in gathering and ripening them. Pears and apples are ready as soon as the seeds begin to turn black, or as soon as they will part easily from the tree by gently raising the stalk, or as soon as the leaves show indications of falling from the trees; indeed, whether they are duly ripe or not, no length of time will avail them aught after the leaves fall. No rules can be given for the exact place to put them away in, but the principle must be applied to each individual case. In the first place, the fruit-shelves must be secure from frost. In the next place, it must be just moist enough to prevent withering, but not too much so, or the flavor will be inferior. Nor must it be too hot, or your fine *Beurres* may become *Fondantes*, or resemble cooked *Pommes des terres*, alias boiled potatoes. If it is too cold,—barely above the freezing-point,—the fruit becomes insipid and tasteless. The happy idea is to strike central to all these extremes. Of course, they must be hand-picked from the tree, as the slightest bruise causes decay. The stock must be occasionally overhauled anyhow to take out such as will be found, from various accidents, in a decaying state. Apples, for commercial purposes, are usually barrelled-up, with chaff or other light substance between each layer; and some pears, such as Lawrence, will bear the same treatment; but such preserved fruit are never equal in quality to those preserved in a more open way on shelves.

PEACHES IN ILLINOIS.—The *Galena* (Ill.) *Courier* is informed that the peach crop in the southern part of that State is immense. A ridge in Union and Jackson counties, twenty miles long, and from five to seven miles wide, produced at least one million bushels, a large amount of which will be distilled.

Communications.

REPLY TO MR. WILLIAM BRIGHT, ON GRAPE-GROWING.

BY G. P. HACHENBERG, M.D., COXSACKIE, N. Y.

In the August number of your valuable journal Mr. William Bright gave us an article on "Grape-Growing." As one of "a set of writers that sprung up" for the sake of truth in science, I beg leave to make somewhat of a review of this gentleman's paper.

He states "that the foreign vine would stand any degree of heat in the graperie, short of 212° of Fahrenheit, provided sufficient moisture were present in the house," and cites an experiment where the heat of 175° or more was applied to his vines, without injury to them. The error here consists in not stating what length of time his vines were exposed to such a high temperature with impunity. It needs no experiment to know that vegetation, exposed to an unusual high temperature for a long period, must die, notwithstanding all the artificial evaporation with which the plant may be surrounded. Plants cannot continue to live in a constant heat of 175° Fah. They will never adapt themselves to a temperature of that kind.

On the other hand, a plant can for a *short time* be made subject to any degree of heat, not only "short of 212° Fah., but far beyond that,—not, however, by several hundred degrees beyond the boiling-point, as Mr. Bright would make it appear by the following remarks:—"The grape-vine can stand the heat better than a human being can." Let us ascertain what heat man can endure. "The workmen of the late Sir F. Chantrey have been accustomed to enter a furnace in which his moulds were dried, whilst the floor was red-hot and a thermometer in the air stood at 350°; and the Chabert, the 'Fire-King,' was in the habit of entering an oven whose temperature was from 400° to 600°." As "the grape-vine can stand the heat better than a human being," will our friend ascertain how far beyond 600° Fah. his grape-vines will endure without injury?

Plants may, with comparative impunity, be exposed to many deleterious influences which would be destructive to animal life. There are plants that can endure any degree of natural temperature better than man, but are not so well able to sustain the extremes of heat and cold. The low standard of sensation in the plant is what protects it from many of those influences which would be destructive to animal life, but the torpidity of the circulation of its fluid is the great obstacle in the way to prevent it from enduring the excesses of heat or cold. The heat of the human body is known to be almost invariably

980; that of vegetation generally varies with the surrounding air, and, from its languid circulation, becomes a better conductor of heat than animal bodies.

Mr. Bright's views of applying cold water to heated plants with beneficial effects, are obviously correct. Plants will be apt to suffer greatly from depression if warm water is applied to them when in a heated state. The varying effects of warm and cold showers on the growth of vegetation is well known. The application of the fall of cold water on a plant exalts its sensitive functions,—warm water depresses it; therefore the beneficial effects in the one case, and the injury done in the other. The laws of animal life are governed precisely upon the same principles. That Mr. Bright, Russian-fashion, can jump out of the hot bath into the snow with impunity, is owing to the over-excitement of the capillaries of the skin, which depress the nervous functions to such a degree, that painful reaction is not experienced, and therefore no injury done. However, let that excitement be not in its highest degree, such experiments may sometimes endanger life.

Mr. Bright appears to be a most unconservative pruner of the vine. I never could understand the philosophy of this practice carried to the extremes. Some do not prune enough, others prune too much—so much so, that they become mutilators of plants. The roots of a plant hold a chemico-physiological relation with the branches and leaves. The roots extract from the soil largely carbonaceous substances, the surplus of which are eliminated by the leaves. The object of pruning being to produce new leaves or fruit, with nature it is an effort for the elimination of retained carbonaceous substances. It follows, that if pruning be carried too far, the plant will suffer from a carbonic *plethora*, and, if stripped of all its leaves, it is literally choked to death. Here, again, we find the same principle at play in animal life. In animals a capacious respiratory activity is highly destructive to the carbonaceous constituents of the body; *vice versa*, a less active respiration interferes less with the disintegration of the body. Of this we have a striking example in the hibernal habits of the bear and some other animals, who sleep all winter, and awake almost as fat in the spring as they were when they went to bed at Christmas.

GRAPE-CULTURE.

BY A. MARSHALL, ESQ., WEST CHESTER, PA.

Having been familiar with various attempts at vineyard or field-culture of the grape in this county, (Chester,) running back some thirty or thirty-five years, and noted the various degrees of comparative success and failures with their probable causes, my

experience and observations may be useful to those who are about to embark in the business without such experimental knowledge. I would premise here, that I write mainly for the uninitiated, and not for the expert, to whom I would listen with much pleasure to any instruction he might be pleased to communicate.

Within the period of time above enumerated, I have known at least six attempts at vineyard-culture, embracing several acres each, and all have reached that page of the volume signed "FINIS." Some have been located on hillsides of different aspects, and others on the summits of hills, or levels of less elevation. It is true that most of these experiments were made at a time when much less was known about the culture of grapes than now. But there was one feature so strongly marked in all those failures as to be worthy of particular notice. It was this:—If there was a dry spell of weather during the month of August, the vines would cast their leaves, and, as a matter of course, the fruit would not ripen. I have seen large quantities of fruit hanging on the vine about the first of September, sunburnt, unripe, and too bitter for any animal to eat. This occurred so often that the conclusion was soon reached, "It won't pay."

With due submission to the opinion of those who may know better, I have long since come to the conclusion that the dryness of our atmosphere was the main agent in producing this result. I feel fortified in this position by the fact, that near large rivers and lakes this is not so apt to occur; and by another fact, that in the neighborhood of these field-failures, about houses and trees, in door-yards and kitchen-gardens, the leaves are not cast, and the fruit matures. This is owing to the attraction of moisture in the atmosphere by, and the shading and protection of, these objects.

We have all seen that the wild vine flourishes and fruits best along the margins of woods,—that the finest-flavored and best-grown bunches are among the branches with one side open to the sun. Now, let us take a hint from this, and plant trees in our vineyards. An apple tree planted about every fifty or sixty feet each way of some good winter variety, would not interfere with the grape-culture nor diminish the quantity of the crop, and the picking of the apples would come after the grapes were gathered, and add to the profits of the operation. An ever-green hedge of Norway Fir or American Arborvitæ planted around the vineyard would afford great protection, and also assist in correcting the atmosphere and rendering it more congenial to the vine.

It is not my intention to say a word on the best mode of preparing the soil and cultivating the grape; that has been well done by abler pens. If the fore-

going hints shall prove of any service to those who are not within the charmed circle of a lake or large river, and yet have a desire to cultivate the grape on a large scale, the time spent in communicating them will not have been lost.

PEACH TREES.

BY ALPHA, WILMINGTON, DEL.

In your last issue, page 228, I received some useful hints on Peach-Growing, by E. Fryer, Dayton, Ohio, to which, with your permission, I will add a few words.

Standard peach trees, particularly such as are worked on peach stocks, do not live healthily and vigorously, capable of bearing fruit, more than five or six years, even supposing the curculio did not exist, from the circumstance that their after-treatment is in all cases left to nature, which never uses a knife. Trees left to their own inclination soon get "knaveish;" the top shoots will plunder the bottom ones of their due proportion of sap; bare poles with gum breaking out through the bark will be the result. The pompous shoots at the top will badly stand a severe winter; they will produce but a scanty crop of yellow leaves the following season, and then death is sued for damages.

In giving my opinion concerning the propagation and after-treatment of peach trees, I would advise, instead of peach stock, to bud on plum stock, as a preventive against the ravages of insects, it being a well-established fact that in England and all other parts of Europe where this is practised, the borer is never heard of. Secondly, when planting a peach-orchard the trees should be in a straight line 18 feet apart in each line, and 9 feet distance between the lines. For this purpose, should formed trees not be at hand, maiden peaches one year from the bud should be planted and headed down to four or five eyes as the young wood advances in growth. It should be formed and tied at regular distances (say a span between) to trellises from eight to ten feet high, which should be put in the ground previous to planting the trees. The following Spring the last year's growth should again be shortened. It will afford a good supply of shoots to furnish the trees, and will also be able to bear fruit the following season. Each succeeding year the knife should be used freely on the young wood in the lower and centre parts of the trees, which will have the effect of keeping the sap in free circulation at the bottom as well as the top, thereby enabling trees to live eighteen or twenty years in full bearing. A trellised peach-orchard can be easily protected in severe Winters by corn-stalks or any other suitable materials, without taking many other advantages into account. Pears, apricots, nectarines, cherries, and plums would look

neat trellised, and bear better than standards and much earlier. With the editor's permission, I will, at the proper time, have something to say about the pruning of trellised peach trees.

Nurserymen should in future practice forming dwarf and tall standard fruit trees on their grounds, in order to meet the wishes of such as would prefer them to standards. I intend putting fifteen hundred peach buds this season in plum stocks, which I intend for trellises.

[There is a growing tendency amongst fruit-growers to believe that the bite of the plum-weevil is not in itself sufficient to cause the fruit of the plum or peach to rot; but that when they do rot after being "stung," it is as much owing to previous disease in the tree as to the weevil's operations. The origin of many diseases in the peach is plausibly attributed to over-luxuriance, which grafting on the plum would remedy. In this sense our correspondent's views may be sound. Mere grafting on the plum would not prevent the attack of the weevil,—it might modify its effects. We believe ourselves that in some districts it would well pay to grow peaches as espaliers.]

SKETCHES of PHILADELPHIA BOTANISTS

BY L.

IV.—THE BARTONS.

Dr. Benjamin Smith Barton may be considered by his lectures and writings, the founder of the American School of Natural History, which has risen to so high a rank in this branch of science.

This father of American science was born in Lancaster, in Lancaster County, Pennsylvania, in 1766. It is worthy of note that Lancaster County was also the birth-place of Robert Fulton and Lindley Murray; the first the successful subjector of steam to the purposes of navigation, the last the popular compiler of the generally received system of English grammar.

His early life was a struggle with want, but his energetic and elastic mind surmounted all obstacles.* To the patronage of his uncle, David Rittenhouse, he gratefully acknowledges he owed the foundation of his prosperity and the ability to be useful. He completed his medical education at Edinburgh and Göttingen.

His reputation for attainments in Natural Science introduced him speedily to notice, and when only twenty-four years of age he was appointed Professor of Natural History and Botany, in the College of Philadelphia, afterwards changed to University of Pennsylvania, and was thus the earliest teacher of

*As an evidence of his pursuit of knowledge under difficulties, we may relate that he learned to draw under the instructions of Major Andre, at the time a prisoner of war at Lancaster.

Natural Science in America. This office he held zealously and successfully for twenty-six years. He was elected in 1802, Vice-President of the Philosophical Society and succeeded Dr. Rush in the chair of practice of medicine.

Dr. Barton united untiring industry with great natural talents, a warm zeal in scientific investigation and uncommon attainments in many branches of knowledge.

Under the pressure of incessant labors most faithfully performed, his constitution was worn down beneath the perpetual struggle between severe bodily infirmity and an ever-restless mind, till at last, after visiting Europe in a vain attempt to restore his shattered powers, he died in December, 1815, having run a career alike honorable to himself and useful to his country.

Dr. Barton's writings are chiefly on subjects relating to the natural history and antiquities of North America. He published the first elementary work on Botany in this country. His works all evince an ardent zeal for his favorite pursuits and a scrupulous exactness in statement and description, and must have contributed largely to the advancement of American science.

Dr. Barton liberally assisted those laborers in science to whom fortune had been less propitious. At his private charge, the botanist Frederick Pursh, in 1805, explored Virginia and the Carolinas and subsequently part of Pennsylvania, New York and New Hampshire. In 1810 he enabled Nuttall to visit the north-western parts of the United States and adjoining British territories, with a similar object. Both explorations largely contributed to the extension of our knowledge of the vegetation of the districts examined. These two botanists agreed in naming one of the finest of their discoveries in honor of their patron "*Bartonia*."

Dr. Wm. P. C. Barton, a nephew of the preceding, was a botanist of considerable reputation, and his successor as professor of botany in the University of Pennsylvania. He published "*Flora Philadelphica Prodrum*," in 1815. 1817 to 1825, *Vegetable Materia Medica*, and 1821—3, *Flora of North America*; the last two illustrated by colored engravings and by far the best that had yet appeared in America, and bearing comparison with those of the most celebrated European botanists. He was author of a useful compendium—*Flora Philadelphica*, containing a description of plants found within a circuit of ten miles around Philadelphia. This was issued in 1818, and

is the most unassuming and perhaps the most meritorious among Dr. Barton's botanical works.

Zaccheus Collins is commemorated in "*Collinsia*," named by Nuttall in his honor. Though not a founder, this enthusiastic botanist was an early and active member of the Academy of Natural Sciences. Dr. W. P. C. Barton dedicated his *Compendium Floræ Philadelphicæ*—"To Zaccheus Collins, Esq., a patient and successful cultivator of that science, the interests of which this little work is designed to promote, these pages with esteem for his talents and attainments are respectfully inscribed."

BRIGHT'S METHOD OF PRUNING THE GRAPE.

BY OLIVER TAYLOR, LOUDON, VA.

Having witnessed the gullibility of the public in matters of new cures for diseases in the human system, and especially the consumption, I feel very much like saying to friend Bright that I cannot exactly get the virtue of his method of pruning the grape so as to make a cure of it.

I have a Concord vine, set out the spring of '59, and now fruiting, and rotting, too, though the ground is perfectly dry, and the Diana and Rebecca by the side of it are not so affected, but a few of the berries have black spots that only affect the skin when first attacked, and often by ripening-time destroy the berry.

I think we will generally find that the same kind of circumstances that produce the rust in our wheat, will produce rot in the grape; and I think experience will prove that we make a sad mistake in planting grapes in warm, sheltered places. I find the north side of a hill the best as less likely to rot, and ripen better.

GRAPE CULTURE ON KELLEY'S ISLAND, OHIO.

EFFECTS OF DEW ON PRODUCING ROT AND MILDEW.

BY M. B. BATEHAM, COLUMBUS, O.

Kelley's Island is situated in the south-western part of Lake Erie, 10 or 12 miles off Sandusky City, with which it has daily steamboat connection. For several years past much interest has been excited among horticulturists and fruit-growers by the large amount and superior quality of Isabella and Catawba grapes shipped from this Island and sold in the cities around the lakes; and those who have made inquiry have learned that the manufacture of wine was also beginning to be prosecuted there extensively with complete success. In fact, it had been found that the grape crop on that Island ripened better than in ordinary localities several degrees farther South, and was almost entirely exempt from injuries by late

[*The *Bartonia* of Nuttall, a beautiful plant found on the Illinois prairies, allied to our garden *Leiza*, has been reduced to *Mentzelia*, by modern botanists, and a genus of little insignificant, gentianaceous plants, established by Muhlenburg, is now recognized as the true *Bartonia*.—ED. G. M.]

frosts and the rot and mildew so often fatal to the crop at Cincinnati and elsewhere.

As the subject is of much public interest at this time, and for the sake of learning more of the particulars, a meeting of the *ad interim Committee* of the Ohio Pomological Society was held there the past month, and the following is a part of the results of their observations: (I should be pleased to hear from correspondents of the *Monthly*, if similar observations have been made by others in regard to the absence of dew being a preventive of rot and mildew in grapes.)

"The number and extent of the vineyards on Kelley's Island, and the progress of grape culture there, far exceeded our expectations. From reliable statistics furnished us, it appears that the number of acres planted previous to 1859, (and now in bearing,) is 62, owned by 23 persons. The number planted in 1859 is 69 $\frac{1}{4}$, and in 1860 there were added 99 $\frac{1}{4}$ acres, making in all 230 $\frac{1}{2}$ acres, owned by 57 different persons. A majority of the owners being new beginners, lacking capital and experience, they wisely attempt only an acre or two at first. The largest amount owned by one man, is that of Addison Kelley, 23 $\frac{1}{2}$ acres, 9 $\frac{1}{4}$ acres of which is in bearing, and 10 acres planted the past spring. Mr. George Kelley has 11 $\frac{3}{4}$ acres, most of it planted the past spring. Four other members of the Kelley family have also three to five acres each. Mr. Carpenter has 11 $\frac{3}{4}$ acres, nearly all in bearing. He is also devoting much attention to the manufacture of wine, and experiments with new varieties of grapes, as the Delaware, Diana, Concord, etc., some of which he believes will supersede the now popular Catawba and Isabella, both for wine and table use. He has also quite a number of seedling varieties of his own raising, several of which give promise of value.

The Island contains about 2,800 acres of land, and 476 inhabitants, as shown by the census. The first cultivated grape vines were planted on the Island seventeen years ago. They are still vigorous, and for fifteen years have not failed of a crop of fruit. The value of the grape crop is found to average about \$600 per acre. Much of the fruit has heretofore been shipped to Chicago and other cities, for table use, but the manufacture of wine is now the chief object. Land on the Island is valued at from \$100 to \$200 per acre. The cost of fitting and preparing the ground, including underdraining, deep plowing, planting and cultivating for three years, and trellising, is only \$300 to \$400 per acre. The vines are planted in rows about 6 by 8 feet apart, and trained to trellises made of strong wire stretched under cedar posts. The mode of training and pruning differs materially from that practiced around Cincinnati, especially in allowing the vine more wood and leaf.

The peculiarities of soil and climate which conduce to the remarkable success of the grape crop on this Island have been the subject of considerable inquiry among horticulturists in that vicinity and elsewhere, and the attention of our committee particularly directed to these points:—

1. *That the climate* of the Island and parts of the country around is peculiarly favorable for the grape crop, in consequence of the lake ice retarding vegetation in spring, so that all danger of frosts is past when the blossoms appear; and then in autumn the warmth of the surrounding water keeps off the frosts for a month later than is usual in other localities of the same latitude, and secures the perfect ripening of the grapes.

2. *The absence of dews and fogs* is another, and perhaps the chief cause of the excellence of the grapes in this region. It is a fact not generally known abroad, that after about the first of July, or when the water of the lake becomes warm, very little, if any, dew falls upon the Island and points of the coast, and fogs are of very rare occurrence. This is believed to be the main secret of the remarkable exemption from rot and mildew, so often destructive to grape crops elsewhere.

3. *The soil* of this region is naturally well adapted for the grape—especially where, as on most of the Island, it consists of a friable calcareous loam, from two to four feet in depth, resting on shale or lime rock, having deep fissures, which afford natural drainage. On such lands, with no manuring and very simple preparation, the grape flourishes and bears finely."

[Some will say that dews and fogs have existed from the beginning, while the grape rot is of comparatively modern origin; but it must be remembered that when the constitution of a vine once becomes enfeebled, a cause that would be insufficient to produce any effect on a strong vine, will injure it, and in this way dews and fogs, by subjecting the vine to sudden changes of atmospheric drought and moisture, may be one serious cause of grape rot. We hope our vignerons will respond to Mr. B.'s call for more light on the subject.—Ed.]

OVERMAN'S PLAN OF BUDDING.

BY F. K. PHENIX, BLOOMINGTON NURSERY, ILL.

Were it not so late for budding I would send a sketch of what I call "Overman's style of budding," first taught me by C. R. Overman, of this place, but somewhat modified from my own experience for several years. Briefly, then:—

1. Short perpendicular cut and buds comparatively short—about $\frac{7}{8}$ of an inch. 2. Wood out, most decidedly. 3. Pushing down the bud, so that the top is $\frac{1}{2}$ an inch or so below the cross cut, and most of the bud also

below perpendicular cut. This brings the bud into very beautiful snug quarters. 4. Wrapping with smallest cotton twine, *only above the bud*, and about twice around, fastening the lower end under the twine and the upper end in a slight hack down in the bark of the stock. Have often had buds to live set in this mode without any tying. This is by far the most perfect style of budding apples I have ever tried. The ordinary mode may be better on cherry trees—which are considered hardest of all to bud at the West; possibly with roses also and some other things which we have not tested so thoroughly.

From the above it follows that in apple-budding according to our experience the five following points usually insisted upon in books or followed in ordinary budding are totally unnecessary:

1. Long buds, as we have often seen them, $1\frac{1}{2}$ inches.
2. Lifting up bark the whole length of bud, at least on free, thin-barked stocks.
3. Leaving wood in, especially when, as often happens in cutting, it becomes loose itself.
4. Close fitting top of bud and cross cut.
5. Close confinement of buds from air.

Lastly, let us add, moist weather for budding; give us the very driest, hottest weather so that stocks and buds are in good order.

[In passing through our grounds with our propagator, a few days ago, he pointed to three successive days' work at cherry budding; here, as at Bloomington, the worst of all stocks to succeed with. The first days' work showed about half failures; the second days', not five per cent.; the third, scarcely five per cent. alive; all by the same operator, same quality stocks and buds. The second days' operation was under a drizzly rain, and the only apparent difference in any circumstances. We mention this to show how uncertainly "rules" work.]

HORTICULTURAL CONSERVATISM: CROCKING.

BY T. W. C., WESTERLY, R. I.

I have read H.'s second article on this subject, and find it to contain no argument to sway what he calls my "very fixed notions on this matter." H. concludes my experience has been "one-sided," and doubts whether I "ever grew a plant except it had been crocked or drained."

I have had the charge of greenhouses a good number of years in my life; four of which I grew plants for market, and during that time found it profitable enough to confer on them all the formula of the order. I have found plants that were not drained, or imperfectly drained, become sickly; washing the roots and fresh earth is a cure—and good drainage always prevents a recurrence of the evil. I think that experience enough of "plants badly crocked and drained."

It was not my only argument in favor of crocking, that "it keeps the roots from getting outside the pots;" if H. will turn to my article in the June number he can refresh his memory. I said "crocking of small pots is necessary, not only as *drainage* and for the *circulation of air*, but it also *helps* to keep the roots within the pot."

This is the position I have taken in the matter, and I would add only the amendment, that it is more necessary in large pots than in small ones. Keeping the roots within the pot, I would observe, is but one of my reasons for crocking; another is, that it keeps the water from *coagulating the soil*. As all the food partaken by the roots of plants is soluble in water, frequent watering is of great benefit to them during their growth; but the same quantity of water that will benefit a well drained plant would be hurtful to one of the same kind in a jar that is not drained.

We are well enough aware that the pores of the spongione on the roots of plants are so small that they cannot absorb a glutinous liquid, and a viscous or thick fluid will clog up the channels of absorption. An over-supply of water in an undrained pot will incur all that danger. On the contrary, a constantly liberal supply of water poured on the surface of a well drained pot will benefit the plant; the water in its descent comes in contact with, melts and conveys, to the roots of the plant the nourishment it requires in a sufficiently thin solution to be readily absorbed without the danger of clogging up or rotting the roots, air being as necessary at the root of a plant as the leaves—water is a channel for the transmission of air to that quarter. All lake or river water is less or more mixed with air, and whether that air be atmospheric or carbonic acid gas, the more water is impregnated with it, the better for watering plants—such water containing a portion of animal and vegetable matter that is left in the earth by the filtering operation of drainage.

Thus, for illustration, draining is like sifting through a sieve; the small particles are ejected and the larger retained. The animal and vegetable matters will be gathered by and mix with the earth, and the soil itself retained by the crocks, while the waste water will percolate through both and escape at the hole in the bottom of a pot more readily than if left to the slow process of percolating through the pores. And here allow me to remark that while water is percolating through the pores of the clay, air can make no inroad in that direction, while crocks would admit a quantity of air directly at the root of the plant that would ascend into the earth as well as gather there; and charcoal, that absorber of ammonia, is porous enough to contain and transmit both air and water. Now that we have seen that water and drainage work in harmony to the benefit of a plant in its

season of growth, I have only to remark that drainage prevents water from hurting a plant in its season of rest—a truth that needs no illustration.

That "roots will strike through charcoal as quickly as through earth," is imaginary; that small fibres sometimes grow through charcoal is true, that they mat around it is more so, but, that the roots of a plant will strike through a piece of charcoal as quickly as through an open hole in the bottom of a pot is mechanically impossible. If your correspondent should wander to this obscure Island, I hope he will give us a call at Westerly. We have some fuchsias here in pots, well crocked with charcoal, plunged in the earth, that have been in full bloom ever since the weather would admit of them out doors, and I expect them to continue to the remainder of the season without the roots getting through the bottom of the pots. I can assure you they have not yet, as I have examined them on purpose to let you know.

The most intelligent part of gardeners will back me with this idea, that more plants are hurt by water than for the want of it. That your correspondent and some of his floral neighbors grow plants without crocking, even if they are "perfect specimens of health and beauty," is no argument to gainsay the utility of draining. Some men can model by the eye as well as others can by rule. It speaks well for the individual's skill, but little for his science.

The crocking is evidently dispensed with to save time; for the same end I might swallow a soft diet, or in dressing omit changing part of my underclothes, but it would be a matter of question, though I did look well, would I live as long?

I am inclined to think I could find the indispensable crock in H.'s establishment, and that if he had a very particular plant that he wished to keep very particularly, and make the best of it, H. would have it drained—viz., crocked.

[As both of our excellent correspondents have now said all they can think of to support their respective positions, and the discussion will therefore close, we may observe that, on careful analysis, very little difference will be found between them; neither of them would like to be considered as doubting the immense benefits which drainage, as a general principle in horticulture, is capable of affording, and yet no one would think of draining a sand bank—the benefits usually derived from draining would not result here.

T. M. C. well observes the ill effects of what is called a badly drained pot, and H. would contend that it is rather because the pot was too large.

The true theory no doubt lies in the middle way. In small and delicate rooted plants, in comparatively large pots, draining properly is a very useful process; in more vigorous rooted plants, or in small pots that dry nearly as fast as water is given, draining is of

very little or no account. We would not think it worth while to crock coarse growing bedding plants, while we certainly should not dispense with it in more delicate growing plants, or where great perfection of growth is desired.—ED.]

PERPETUAL RASPBERRIES.

BY R. M. CONKLIN, COLD SPRING HARBOR, N. Y.

In your directions for the Fruit Garden in the June number you say that there are some who slyly hint that many of the "*Fall-bearing varieties of Raspberries*" owe their sole reputation to the practice of cutting the canes back severely in June or perhaps earlier; "but this is by no means certain."

I do not find that this mode of treatment is at all necessary to develop the Fall-bearing propensity in the varieties which I cultivate. It undoubtedly facilitates its more perfect development, as cutting back does for the common varieties in fruiting. The French, which is the principal Fall-bearing variety that I cultivate, has received from me the most ordinary treatment; the fruit-bearing or old last year's canes being left in the hills or stools until the season arrives for cutting back the new bearing shoots for fruiting. These last are shortened in the month of April to about three feet; they set entirely too much fruit with this length of cane, and undoubtedly should be cut shorter. But with such faulty management they nevertheless invariably commence to set fruit on the extreme ends of the new canes in August, (some of them are already in blossom,) continuing through all the Fall months. I have had many inquiries about the proper name of this variety; I bought it of a fruit grower under that name, and cannot yet identify it with any known sort; it seems to have been recognized under that name alone at the late meeting of the American Pomological Society in New York.

[There is some mistake existing as to what is the true "French" raspberry of Brincklé in some parts of the country. Downing, for instance, speaks of it as being "later than others." Here, where under the eye of the raiser it should be correctly grown, it is certainly not to be classed with the late kinds.—ED.]

SUGGESTIONS FOR PEACH GROWING.

BY S. N. COATE, PLEASANT HILL, O.

In the August number, Mr. E. Fryer makes some excellent suggestions for Peach-growing under difficulties. The following additional hint may be useful:—

It is reported on good evidence that a cultivator of this now very uncertain crop has met with signal success by training his trees with low heads and at the approach of winter bending down the lower tier of branches all around and covering them up with soil, having the position of the tree so that no water

can stand about it. At the approach of Spring, he removes the soil, and the work is done. It is stated that not only the branches and fruit buds covered by the soil, but those left exposed to the winter's cold, are perfectly preserved from its effects.

HEATING GREENHOUSES ECONOMICALLY.

BY JAMES SKIRVING, ESQ., GERMANTOWN, PA.

During my short residence in the neighborhood of Germantown I have been much pleased in looking at the beautiful and tasty architectural designs of the suburban Villas and Cottages, as well as the laying out of the grounds as regards comfort, &c., but in nearly all cases there is one thing that appears to me a general want of—neat little Conservatories or Greenhouses; they might be made plain and simple, or highly ornamental in keeping with the architectural style of the building. There is nothing more delightful in midwinter when the trees are bare and leafless and the ground covered with snow, and everything out doors looking bleak and dreary, than to open a jib door or French window, and walk in a conservatory moderately filled with flowers in bloom, or if nothing more than boxes of clover or anything green in a mild temperature. I have no doubt that the expense of keeping such places warm prevents many a person from having these things; and yet but a simple contrivance is required to accomplish this. Nearly all houses are warmed by furnaces or heaters, and in nine cases out of ten, 25 per cent. of the heat escapes out of the smoke or gas pipe. Let any one who doubts this get on the top of his house and hold his hand over the smoke flue when the heater is in operation; he will soon satisfy himself. Now instead of the heat passing off in this way, by having a damper in the smoke pipe, the heat can be sent round the conservatory—it being on the grade above, either in brick or clay flues; the former is the best, as by having a proper check, all the heat will be absorbed and diffused in the greenhouse.

A house, say 10 to 12 feet wide and from 20 to 30 feet in length, may be warmed sufficiently to keep hardy plants all winter. Now in some cases when the house is already built it may not be convenient to take the smoke pipe to the south side of the house, but it might be that the heat from the water-back of kitchen range might be used for that purpose (as it is found to be just as cheap to keep up a continual fire, night and day,) by an additional stop-cock and a few coils of small size gas pipes round the place to be warmed, will produce heat sufficient to keep plants requiring a moderate temperature in a healthy condition. Again, a water-back can be put in the back of a parlor, dining or sitting room grate, and would produce the same effect. I have fitted up a number of

conservatories in this way, giving entire satisfaction. In one case the house was on the hill-side; the kitchen being on the lower story; a terrace on the side of the house; by means of a damper the draft could be turned off the chimney and up and into a brick flue running round a greenhouse 25 x 16, where a collection of plants were kept blooming all Winter; no gardener was required to take care of the house. It afforded pleasure and a healthful amusement for the family. Any person wishing information, I shall be pleased to give it.

[If we recognize our friend aright, he has "retired into rural life," on means derived from kindred pursuits to that on which he now addresses our readers, and few persons therefore could be better fitted to give sound practical advice than he.

The hint about fitting up water-backs with hot water pipes to connect with the conservatory, is an excellent one; simple inch leaden pipe is sufficient; a small tank for the circulation of hot water could be fitted on the floor in the front of the conservatory, connecting with the lead pipe, would be just the thing, and a genial, moist atmosphere, for which most conservatory plants languish when warmed by heaters, can be cheaply and readily obtained. We hope Mr. Skirving will pursue the subject further.]

STRAWBERRY SYNONYMS.

BY JOHN SAUL, WASHINGTON CITY, D. C.

Your remarks in the August number of the *G. Monthly*, that "Vicomtesse Hericart de Thury" Strawberry was known in England as "Duchess de Trevisé," reminds me that I imported it under both names when first let out; and to these I have now to add a third, namely, "Marquise de la Tour Maubourg," which after fruiting with me two seasons, proves to be identical with "Vicomtesse."

BUDDING THE GRAPE.

BY S. M. COATE, PLEASANT HILL, O.

I noticed an article in the last number, which stated that an individual in Europe had been successful in budding the grape. I had been considering the subject myself, and not having any evidence either for or against the success of such a practice, had come to the conclusion to try the experiment, and had inserted a bud only a few days prior to the receipt of the number containing the information, to my satisfaction, that it had already been accomplished. It may not be a "new thing" with many of the intelligent readers of the *Monthly*, but since I consider myself as but a mere novice in matters of horticulture, I should be glad to hear from some of our more experienced men as to its general practicability in this country.

ENTOMOLOGICAL ESSAY.

Read before the "Fruit-Growers' Association of Eastern Pennsylvania at its Meeting in West Chester, on the 13th day of June, 1890.

BY S. S. RATHVON, ENTOMOLOGIST OF THE ASSOCIATION.

Mr. President:

As an amateur naturalist, with few opportunities at present for the *practical* development of natural science, permit me, nevertheless, to offer a few suggestions upon the relations existing between entomology and horticulture, or fruit growing. Without at this moment adverting to the *cause*, it may be sufficient to say, that it is a fact, patent to the commonest observation, that, in at least this section of our country, there is greatly less fruit produced in proportion to the population than there was five-and-twenty years ago. That this is the case in regard to the apple, peach, and plum crops, I think will be generally conceded. Many of us can, doubtless, remember that in the days of our boyhood, and even since we have reached the years of manhood, apple trees, pear trees, peach trees, and plum trees were, at least every alternate year, often loaded down with a superabundance of fruit, and that these products could hardly be disposed of at the one-eighth or tenth the prices they have been selling at in our markets for the last five or six years. Some of us may also remember, that when we first commenced housekeeping, we could usually obtain more apples and peaches at from eighteen to twenty-five cents per bushel than could possibly be consumed in the family; and that the cultivators of these fruits were glad to barter them off for any thing they could make use of,—whereas, for the last five or six years we could not procure them for less than six, and in some cases even ten, times that amount paid down in hard cash. We may remember, too, that small families, consisting of three or four individuals, in those days consumed more fruit during the year than families of ten or a dozen now do, mainly because of the scarcity and high price of these most pleasant, healthful, and useful products of the soil.

There are, doubtless, a variety of causes that have conspired to bring about this result; and, although a number of them have from time to time been suggested, yet there has been no general harmony of opinion elicited in reference to the matter. Waiving all other causes, which may be more intelligently stated and more ably discussed by gentlemen of this Association who have made fruit-growing their speciality for a number of years, I come to the consideration of the subject as it stands in connection with the denizens of the *insect* world; in which I propose to state some of the peculiarities of the different *tribes*, in order that we may form some idea of the extent to which their depredations are capable of being carried, and what checks exist against them, in the economy of nature itself.

Carrying our memories back again to our earlier years, we may recollect that there was as much fruit that fell from the trees *then*, punctured by insects and from other causes, as there is *now*; but, the crops being so abundant, the fruit-grower could better afford it; and it was, therefore, not so observable: indeed, he sometimes felt quite satisfied that, from these contingencies, his trees were relieved from their superabundance without his special intervention. Perhaps we may recollect, too, of the ground under the trees being literally covered with fruit, whilst at the same time the trees themselves overhead were loaded down in far greater abundance. Of the fruit thus lying upon the ground, a portion of it was excellent in quality; but we may remember that far the larger portion of it was either infected with the rot, or contained one or more little white or reddish *worms*, which we may innocently have supposed would remain worms; and therefore any apprehensions about the destructiveness of *insects* probably never entered our minds.

Our situation seems to be a novel one, and may, perhaps, be thus defined:—Twenty-five years ago we were quite willing to allow the insects, the birds, the storms, and other contingencies the one-fourth, third, or even the one-half, of our fruit crops, because we felt quite assured that, in what remained of their great abundance, we should have sufficient for home use and to supply the demands of the market; whereas we are *now* contending with those same insects, birds, and other causes of depletion, for the small moiety that is still left us. A profitable subject of inquiry would, doubtless, be to find out what has become of the *twenties* of bushels of fruit that once adorned our fruit trees, after they had deposited, during the summer, their *tens* of bushels upon the ground. Our fruit trees, I believe, bloom as profusely now as they ever did, and the rudimental and elementary principles of fruit-bearing remain unchanged. No organic or functional change seems to have taken place in the last quarter of a century, and yet, with all the additions and improvements in our stock of horticultural material and knowledge, fruit of all kinds is scarcer and higher in price, by at least one hundred per cent., than it should be in such a prolific State as that of Pennsylvania, and especially in localities that have been denominated, by way of distinction, the "garden of the State." Many of us would, doubtless, prefer a return of those old *realities*,—no matter how humble their qualities and their names, if we only had their

abundance,—to the new ideals, that, in a great measure, have been, thus far, only flitting like unsubstantialities before our mental vision.

Whatever the other causes may be, either singly or combined, that are in operation and producing an effect which we all so much deplore in regard to the fruit crop, it must soon become obvious to the commonest mind, that the rapid increase of destructive insects may be no inconsiderable one, and may, therefore, be a subject worthy the attention of the fruit-grower; and I wish distinctly to impress it here, that the patient observation and persevering industry of that class of men *themselves* must, in due course of time, develope and demonstrate the practical application of entomology to their calling.

Granting that the fruit crop in this section of country is reduced to about *one-fourth* of what it formerly was, that remaining fourth is now in danger of becoming a prey to insect depredations. An antidote to this state of things is now the great *desideratum* of fruit-growers, and the discoverer of that antidote would certainly be entitled to our gratitude as one of humanity's friends and benefactors. But I apprehend that the discovery of such an antidote would almost be equivalent to calling the dead to life;—not that *nothing* can be done to arrest the destruction of insects; but that, had not provision been made in the general economy of insects themselves, man could thus far have accomplished but little in staying their progress. If a redundancy of insects is to be regarded as one of the causes of depletion in our fruit crops,—whether they attack the trees or the fruit itself,—then that redundancy must *itself* be the effect of a prior cause, and that cause nothing more nor less than a disturbance of the general harmony of nature. In my humble opinion, the superinducing cause of the destruction of domestic vegetation by insects is owing to the rapid removal of the forests of our country and the wholesale destruction of the denizens of the forests. A large number of wood-boring, leaf-destroying, and fruit-puncturing insects that at one time confined their operations to the forest trees, are now found in abundance on our fruit trees. Twenty years even have made a perceptible difference in regard to the numbers of certain species of them; for I now often find insects in the city of Lancaster that I formerly found only in localities remote from the habitations of men and domestic animals; and I apprehend that each succeeding year, in proportion as their natural enemies are removed, they are approaching nearer. To enumerate all the insects that are injurious to man and the productions of the soil, would involve an amount of labor by no means condensable within the narrow limits of a general essay, like the present one must necessarily be, and would impose an extended attention which no audience, under ordinary circumstances, would feel disposed to give. Nevertheless, it may be sufficiently interesting to state here, that the subdivision of the animal kingdom to which entomology specially relates is called the *Class Insecta*, and belongs to the sub-kingdom *Annuloso*, or *Articulata*, because all the subjects of it in their organic structure are *articulated*, or united together in segments or sections, externally, and not by an internal spinal column, as is the case in vertebrated animals, which, on that account, are classified as *vertebrata*.

The class *Insecta* is again subdivided into *orders*, numbering more or less, according to the arrangement of different authors, and these *orders* into *sections*, *families*, *sub-families* or *groups*, and these into *genera* and *species*; and, although these divisions to the novice or the uninformed may seem arbitrary, nevertheless they are necessary, scientifically considered, in order to facilitate the study and the arrangement of the multitudes of the little animals that are brought under them. I can do no more at present than mention the names of a few of the prominent orders and families, and add a few passing remarks in relation to each of them.

The most popular classification of insects recognizes the order *Coleoptera*, to which belong the hard-winged insects, usually called "beetle" as the head. The order *Orthoptera* includes the grasshoppers or true locusts, the crickets, the cockroaches, and other kindred species. Both these orders are provided with *mandibles* or jaws, and masticate their food. The order *Hemiptera* is the third, and includes those insects properly called "bugs," as the "squash-bugs," "bed-bugs," aphids, and their kind. The order *Lepidoptera* comprises the butterflies and moths. Of the latter two, the *Hemiptera* are *suctorial*, being provided with a sucker instead of jaws, and the *Lepidoptera* are only *suctorial* in their perfect state. The order *Hymenoptera* includes all the various bees, wasps, hornets, sawflies, &c., which both masticate and lap or suck, being provided with jaws and sucking or lapping apparatus. The order *Neuroptera* includes the "dragon-flies," &c.; and the order *Diptera* all the two-winged flies, as the common "house-fly," &c. The larvæ of all the "long-horned" or capricorn beetles (*LONGICORNIA*)—a family of coleopterous insects—are wood-borers, and were originally only found in the forests. With a number of these we are somewhat acquainted, from their peculiarly mischievous characters; for among them conspicuously are the apple and pear tree borers, (*Saperda bivittata* of Say,) the locust tree-borers, (*Clytus flexuosus*.) and a host of others. Ten years ago already, fifteen species of *Saperda* and thirty-eight species of *Clytus* had been catalogued and described,

and there is no knowing yet how many new ones have been discovered since, or how many may be discovered in the next ten years to come. Three hundred and eighty-one distinct species of these wood-boring long-horned beetles were already known in 1852 as inhabiting the territory of the United States, east and west of the Rocky Mountains, all of which pass the larvæ state in living or decaying trees or wood.

But this is not the only family that is tree-boring in its habits. A number of individuals in other families, especially the "book-horned" beetles (*LAMELLICORNIA*), and the almost entire families of *BUPRESTIDÆ* and *ELATERIDÆ*—which include the old "saw-horned" group (*SERRICORNIA*)—are essentially wood-boring in their habits, and therefore destructive in their tendencies. Of these, some have found their way to our apple trees, boring up higher than the *saperda*; and when we reflect that nearly ten years ago more than three hundred and twenty distinct species of these families were already described and known, the array of insect enemies becomes formidable, indeed. True, a large number of these are now only found in our forest wilds, but they are brought among us in the timbers that are sent to our markets, and when evolved from their long pupa sleep, are as likely to deposit their eggs in our domestic trees, in the absence of others, as the apple-tree borer itself has done. The long-horned pine beetles are frequently met with along the Susquehanna River wherever there are lumber-yards, and I have even found a few of them in Lancaster city.

All the "snout beetles" (*CURCULIONIDÆ*) are, to all intents and purposes, borers in their habits, and are, perhaps, more destructive to the products of the soil, so far as fruit is concerned, than any others. Nearly four hundred North American species of these "curculios" are already known to entomologists, and there may be a large number that are yet unknown. These insects, however, do not confine their boring operations upon one particular substance,—some boring into wood, fruit, and nuts, some into the different kinds of grain, and others into the leaves and stocks or stems of various kinds of shrubs and plants. I must pass over a large number of coleopterous insects that are more or less destructive to vegetation in their habits, and come to the consideration of the order *Lepidoptera*, which, as I before said, embraces all the various butterflies and moths, including the pernicious peach-tree borer. The larvæ of a large number of these insects defoliate our fruit trees, and, if permitted to continue their depredations, they vitiate the quality of the fruit by depriving it of that element which the leaves alone can furnish. But the operations of the gregarious, leaf-eating caterpillars require very little observation to be detected, and may thus be easily arrested if taken in time. The wood-boring lepidoptera, and also those that are plant-cutting in their habits, are not so easily detected, because their operations are carried on within the body of a tree, or underground, or after nightfall, and also because they are solitary in their habits. All the various cut-worms belong to this division of this order, which is an exceedingly prolific one. The order *Hemiptera* includes a large number of suctorial insects, inconspicuous in appearance, that are more destructive to plants or succulent vegetation than they are to shrubbery or trees, and, therefore, are more interesting to the vegetable-grower than the fruit-grower. This order is almost exclusively destructive or annoying in its habits, and among its individuals may be recognized the before-alluded-to odious "squash-bugs" (*Coreus tristis*), the various kinds of "plant-lice" (*Aphis*), the "bark-lice" or "scabs" (*Coccus*), the "bed-bugs" (*Cimex*), and a host of others. Dr. Harris, in his Catalogue of the Insects inhabiting the State of Massachusetts in 1835, enumerates over three hundred and twenty species of *Lepidoptera*, and about two hundred species of *Hemiptera*, nearly every individual of which is either destructive or hurtful to vegetation, to fabrics, to trees, or to animals. Of course, the intervening twenty-five years must have involved the discovery of many new species not then known. But the end is not yet, although sufficient may have been said to elicit an idea of the legions of insects that may be thrown upon us, without any certain means of diminishing their numbers, if it was not for the intervention of contingencies in the economy of nature, by which an equilibrium is maintained. I have not alluded specially to the *Orthoptera*, which includes that great family of masticating-feeders, so destructive to vegetation when they occur in great numbers—namely, the grasshopper—because fruit-growers, perhaps, are not so liable to their injuries, as a general thing, as those who raise garden and field crops. The strawberry crop comes too early to be injured by them.

[TO BE CONTINUED.]

PEACH PIE.—Dr. Darlington says, "Judging from observation it would seem to be not generally known to our pastry cooks that a peach pie baked with the fruit whole, (simply pared, but with the nut left in the peach,) is vastly superior to one made of the mere fleshy portion cut in pieces. The process of baking—as I suppose—elicits the prussic acid from the seeds of the peach, and diffuses it through the pulp,—imparting to it a sprightly and delicious flavor, far beyond what it possesses when the stone is previously ejected."

NORTHERN APPLES IN THE SOUTH.

BY JAMES MAGOFFIN, ST. STEPHENS, ALA.

Having been for a considerable period among the most successful amateur cultivators of the apple, as well as other fruit, and from long residence, (having been raised in Philadelphia,) possessing a knowledge of the different apples much esteemed in the North, I can assure you that all apples from the North are found, on careful and judicious cultivation, to improve in this climate,—the secretion of oleaginous and saccharine matter singularly increases, the aroma is greater and finer than the same apple produced in my native State or north.

In consequence of this fact being unmistakably ascertained, I have endeavored to possess all the foreign esteemed varieties I can to acclimate, if possible, by grafting and re-grafting, and have succeeded singularly on one especially, the "Vermont Greening"—now one of our surest fruits.

It will, perhaps, interest you when I assure you that the *Mammoth Pippin* is found succeeding admirably thirty miles south of Mobile on the margin almost of the gulf.

[The above extract from a private letter we take the liberty of publishing, containing, as it does, information that is novel, and that will highly interest many of our readers.—Ed.]

THE OSCAR STRAWBERRY.

BY JOHN HAYS, WEST MERIDEN, CONN.

I send you (August 28th) a peduncle of the Oscar Strawberry, bearing seven berries (the usual number, but two peduncles are always borne together); the ripe berry is much below the regular size. I send it to show the peculiarity of it fruiting at this season. That which I send you is from a plant growing in a pot, and is its third fruiting this season. The plants in pots made no runners, consequently a third crop was obtained. Those planted out fruited admirably early in the season, and continued to bear much longer than any other variety we have.—Scarcely had they done bearing their first crop, when they began to blossom and gave a second; the latter is that which your correspondent noticed, and was much inferior in size to the former. You remarked that keeping the plants in pots during Winter alters their natural fruiting next season. You are, undoubtedly, right; but what can we say of plants grown in pots all the season, and even now are bearing fruit? To have a decision, we must await another season, when I shall watch the columns of the *Gardener's Monthly* with anxiety to hear what others have to say on the subject.

[We should not hesitate to decide beforehand, that the Oscar will not prove a perpetual bearer. Pears,

apples, grapes, and other fruits will often produce second and third crops, arising from accidental circumstances, rather than from any fixed nature in the variety. If, however, by any peculiar treatment, the Oscar or any other strawberry could be made to produce Autumn crops regularly, and with little additional cost, very much would be gained to fruit-culture. We hope Mr. Hays will persevere with his experiments. The berries sent came in good condition, and were equal in size to a good Hovey's Seedling, and a long way superior to it in flavor, though so late in the season.—Ed.]

AMATEUR OF CORNELIUS' PROPAGATING-POT.

BY S. SWINDELLS, LANCASTER, PA.

In looking over the last number of the *Gardener's Monthly*, I perceive that many have been inquiring for the Cornelius' Propagating-Pot. An idea struck me at the time that the following would be a good substitute, if not an improvement, viz:—Take three 12-inch boards of any length, say sixteen feet long, and make a long box or trough; but, before fastening together, in the piece intended for the bottom of the trough make a few augur-holes, and in the piece of board intended for the front make the apertures for the insertion of the cuttings in the following manner: Rip the board with a saw at the distance of four inches from one edge, which will then be two boards, one of four, the other of eight inches. Along one edge of the four-inch board make, with a saw, notches or cuts in the form of the letter V, one to about every inch of the board. Then, in nailing together, place the notched four-inch board on one side, with the points up; then place the eight-inch board on the same side, one edge resting on the points of the notches, and, after putting in two end-pieces, you have the *propagating-trough* complete. Put in the bottom some coarse materials, such as broken crocks or oyster-shells; then proceed to fill up with sand, saw-dust, or spent tan. By placing the trough east and west, with the apertures fronting the north, you have the cuttings partially shaded from the sun. By attaching a light board with hinges to the front edge of the trough, you can produce any desired shade at pleasure. The trough can rest on tressels, or be suspended on the north side of a fence. By suspending over hot-water pipes, you can obtain any desired quantity of bottom heat.

VICTORIA REGIA.

FLOWERING IN THE OPEN AIR.

BY A., PHILADELPHIA.

Noticing, at a recent meeting of the Pennsylvania Horticultural Society, a beautiful flower of this noble plant on exhibition by Mr. James Pollock, the skillful

gardener of James Dundas, Esq., and not having an opportunity to call ourselves at the establishment, we engaged a friend to obtain for us the course of treatment pursued, which, as seen below, Mr. Pollock has kindly given him for us:—

The plant was carefully tended in the Spring, and on the 24th of June placed in a basin, attached to the fountain in Mr. Dundas' garden. The leaves of the plant at this time were eighteen inches in diameter, and, by giving the plant a change into a larger box, with a very rich compost formed of rich loam and well-rotted manure, it was excited to grow very rapidly, and by the beginning of August the leaves were three feet in diameter, and of a very healthy appearance. At this time buds were formed, which swelled rapidly, and, by the latter end of the month, a flower was fully expanded, for the first time, we may truly say, in this country. It measured nine inches in diameter, being well formed and very highly colored. Mr. Pollock deserves great credit for his success. Considering that the water at Fairmount being heated to from 75° to 80° by the great surface exposed to the sun's rays, he fully expected that he could succeed in his experiment, and with, as we have seen, complete success.

VINOUS PROPERTY OF THE GRAPE Versus TARTAR.

BY C., PHILADELPHIA.

I could not pass over the extremely lucid chemical article in your last from Dr. Hayes, of West Chester, without making a few remarks on it, as our friend Bright's fertilizer is so deeply concerned; and as scientific knowledge is so far above all practical, particularly in that complicated science chemistry, I was a little (to use a vulgar expression) "dumb-founded," as I am sure many of your readers were, after its perusal. For the sake of Mr. Tartar, and not to make the intricate subject more intricate, I thought if I made a short katalysis of the matter, he might be retained or rejected by future manufacturers of friend Bright's fertilizer; and that he might be induced to alter his R in the next edition.

Chemical reasoning is sometimes paradoxical; and we are often as baffled at the "why's and wherefore's" as Dr. H. is, and cannot see how "tartaric acid is any advantage to the grape" in fact, or any of its constituents. Now, there is mucilage, sugar, aroma, and various other good things grateful to the palate; but Mr. Tartar what use are you? To set our teeth on edge? But to be short, dear reader, Mr. Bright's book is on the *culture of the grape vine*—Dr. Hayes' paper on the *katalysis*. One tells us of soil, manure, water, potting, planting, pruning, pinching, and so forth; while Dr. H. tells of fermentation, "alcohol,

carbonic acid, water, &c.," a mixture that would grow very bad fruit, and I am quite sure would make worse wine. When the *argol* is deposited, is argol the *katalysis* of tartaric acid? for it is given in *italics*; and further, we have "alcohol in high standard of density," and then when Mr. Tartar has taken his departure, we have "alcohol in low standard of density;" in plain English—strong and weak *punch*. Now, German wines are all very sour—dry they call them; and Dr. H. has certainly not made their katalysis very clear, the why and wherefore they are so—entirely by the "elimination from sugar and *bulk of price*?" by putting too much water in the punch—showing that "the wine *per se* has nothing to do with the argol deposited;" and then he says by "keeping the tartar we lose the alcohol," and *vice versa*. But here is the puzzle:—"grapes contain large quantities of argol (?) and sugar, and what use is Bright's recommending us to "stuff more argol into the grapes to be turned out by the alcohol? Nor can Dr. H. understand, under any circumstances, a grape wanting argol, for he says "nature gives an excess;" and why should Mr. Bright force his tartaric acid on her to such repletion that the inflated grape has to disgorge? in fact, it is a species of intoxication. O, Bright, Bright, why force poor Nature by your overdoses?

Sour grapes are only for foxes. Dr. H. knows well the ladies are on his side; the sweet creatures like sweet wine; acid wines spoil their teeth. I now see why we cannot import Italian wines—too much tartar or argol; but we buy so much of the article for dyeing, printing, &c., that the Italians, from whom we get the largest supply, must water the volcanic grape soil with tartaric acid, and so it comes to be deposited in argol in their wine cask. True, it is hard now to get a glass of the "Lachrymo Christi," or the fine old *Falernian* we have heard tell of. If Garibaldi got a hint of this abuse, perhaps his great reforming mind might strike out a plan to drive Mr. Tartar from Italy, and let us have good sweet wine from the katalysis of their grapes.

But to conclude; we all owe Dr. H. our thanks for his communication. It opens up new views to the horticulturist, the wine maker and the chemist, extremely valuable; and though I think, or did think, Bright's book a *ne plus ultra* on his subject, yet still he, and I, and all of us will find, and even old Solomon to boot, that there is still "something new under the sun."

[C. having failed to punctuate his own manuscript, we are not answerable if his ideas are not correctly given in print.

We hope our correspondents will not lose sight of the *point* of the discussion, which, after all, amounts

to the inquiry whether any correct theory of fertilization can be established on the mere analysis of the component parts of fruit or vegetation. Dr. H. has confined himself to the point of tartaric acid; but all the other elements will bear the same questioning. While believing that modern chemistry is right in the main, we dissent from much that is claimed for it; and have not the slightest doubt but that many of the theories on which special fertilizers are founded, no matter how useful the compound may prove practically to be in itself, will be incontinently abandoned.—ED.]

NEW WHITE EGG PLANT.

BY NOVICE.

I send herewith samples of a new Egg Plant which I have received from two sources as the *Chinese* and the *French White Egg Plant*.

The habit of this variety is more erect than the old purple kind; its leaves are of a paler green and entirely devoid of spines; and the fruit, which varies in size from 6 to 10 inches in length and 2 to 3½ in diameter, matures 10 to 14 days earlier than the long and round purple sorts. It is very prolific, yielding 6 to 12 fruit, of a clear white color, sometimes, though rarely, faintly streaked with purple, indicating its descent from the common kinds, probably a hybrid of the old white egg-shaped and the long purple.

All of my friends who have tasted it pronounce it more delicate than the old sorts, and entirely free from any bitter flavor, which often characterizes the large round purple variety.

For its earliness, productiveness, fine flavor, handsome appearance, and *convenient size*, both for cooking and eating, I think it will prove a valuable addition to the present meagre list of varieties of this delicious vegetable.

[The specimens sent proved excellent. The fruit of the Egg Plant bring from 6 to 10 cents each, and not much profit to the grower at that. All lovers of this delicious vegetable will hail that productiveness which may make them cheaper.—ED.]

NOTES ON THE SUB-GENUS TYDÆA.

BY DANIEL BARKER, GARDENER TO B. K. BLISS, SPRINGFIELD, MASS.

Amongst Summer and Fall flowering greenhouse and window plants, there are few which can claim greater merit than the new and elegant varieties of this interesting and beautiful class of plants; alike adapted for the decoration of the hot and greenhouse, the windows of our dwellings, or portable plant case (which by the way is one of the most elegant objects for the ladies' boudoir or parlor, or the window of the artizan, which have ever been introduced.) Cross-

fertilization within the past few years has made a wonderful change in this tribe, comparing those of the present with those of only five years since; there is a great superiority, both in form and color of the flower as well as in delicacy of marking in the foliage. Amongst recent importations there is such a beautiful combination of color, size and substance of flower, harmonizing well with the delicate and elegantly marked foliage, this class of plants was never before exhibited. They are of very easy culture, and when well cultivated are amongst the most beautiful of greenhouse plants, growing from six inches to two feet high, flowering abundantly.

They produce a beautiful effect throughout the Summer and Fall months. For exhibition, nothing can be more charming than well-grown specimens of a few of the best varieties. It requires no more care to cultivate a good variety than an inferior one.

I have, from a collection now in flower, (August,) made a small selection of the best, combining beauty of form and color of flower, with distinct and elegantly marked foliage:

TYDÆA Lady Caroline Kerrison. A very beautiful variety, growing about two feet high. Flowers, a rich rosy crimson, finely marked with rich violet spots and lines; the interior of the tube being marked with rich, dark crimson bars.

Lady Digby. From one and a half to two feet high. The foliage beautifully diversified with light and dark green; tube of the flower about one inch in length, of a fine crimson scarlet; lobes of the flower a deep rich rosy crimson, marked all over with deep violet crimson spots and bars; a superb variety.

Gigantea insignia. A very ornamental variety; an improvement upon the well-known *Achimenes picta*. From one and a half to two feet high; flowers very numerous, funnel shaped, of a brilliantly shaded crimson, scarlet ground, spotted with deep carmine. A valuable plant for Fall and Winter flowering.

Amabilis. A very delicate and beautiful variety; one of the loveliest of all the section. Color soft rose, with a white throat marked with deep carmine. Fine silvery shaded foliage.

Agathe. A highly ornamental variety, from eighteen inches to two feet high, with beautifully marked foliage. Tube a brilliant scarlet; mouth of the corolla deep rose, marked and spotted with deep red.

Auber. A chaste and beautiful variety, from ten to sixteen inches high. Tube scarlet; mouth of the corolla a deep carmine, distinctly marked with crimson lines. An elegant variety.

Perle des Tydas. Fine dwarf habit, with very ornamental foliage. Tube and throat rich scarlet.

Princess Charlotte. A fine robust-growing variety, with richly marked foliage. Tube a bright carmine

red; mouth of the corolla a rich dark red or carmine, finely spotted with deep crimson. An elegant variety.

Recipes of Fruits and Vegetables.

"The lady who contributes a good recipe for the public benefit deserves as much credit as he who introduces a new fruit or vegetable."—*Good Authority.*

PICKLING PLUMS.—As we all hope for fruit this year, I send a recipe for pickling plums, which I know, by experience, to be first-rate. For a peck of plums, take a pint of vinegar, one ounce cloves, and one of cinnamon buds, tie the cloves in a thin piece of cloth, and four pounds of sugar. Boil together and pour on the plums hot. Let them stand two days, then pour off the liquid, boil, and pour on again.—Cover and set them in a cool place. They will keep longer than preserves, and are far superior in my opinion.—*Rural Register.*

TO KEEP CUCUMBERS FOR WINTER USE.—The German method is as follows:—Pare and slice the Cucumbers as for the table, sprinkle well with salt and let them remain for a day and night, when strain off the liquid, pack them in jars, a thick layer of salt and Cucumbers alternately, tie up closely, and, when required for use, take out as much as required and well wash in fresh water, dress in the usual way with pepper, vinegar, and oil. The above will be found very acceptable during the winter months, when Cucumbers are not easily obtained.

DRYING VEGETABLES.—The Editor of *London Collage Gardener* says:—We recollect, some eighteen years ago, receiving from Hamburg or Holland, we forget which, a few packages of Sugar Peas, Kidney Beans, and other vegetables, in a dried state, which, when cooked, were as well-flavored as they would have been in the green state. These, we believe, were obtained by drying in chambers through which currents of heated air were introduced; they were completely dried and shrivelled up, and had the appearance of strips of thick parchment or leather, until they were boiled, and then they swelled out to their usual dimensions. We have also seen Kidney Beans preserved by first boiling them tender, and afterwards drying them in a warm, airy place, when they may be kept for any length of time in bags or boxes, till ready for use. This drying process may be applied to Peas, Beans, Kidney Beans, Cabbages, Cauliflowers, Spinach, Beet, Parsnips, Carrots, Potatoes, &c., the latter being cut in slices.

CUCUMBERS PRESERVED.—Pare thinly the Cucumbers; cut them in two, lengthwise, and take out

the seeds; lay them in cold salt and water for twenty-four hours; then wash them and lay them in alum water for twenty-four hours longer, when they are to be taken out and drained. To each pound of Cucumbers take a pound of sugar, of which make a syrup, by putting a teacupful of water to each pound of sugar. Skim it well, put in the Cucumbers, and boil slowly till they are quite clear; take them out, lay them on a dish, and continue to boil the syrup till it is thick, adding the juice of two lemons and two races of ginger. Put the Cucumbers into jars and pour the syrup over them. Let the jars be kept air-tight.—*Collage Gardener.*

New or Rare Plants.

At a recent meeting of the London Botanic Society, the following new plants were exhibited:

CLARKIA PULCHELLA TOM THUMB, a very pretty dwarf and very bushy plant, a complete mass of bloom.

LINARIA MACROURA SPLENDENS, a very fine, dark purple variety.

POLYSTICHUM ACULEATUM CORYMBIFERUM. It is a very ornamental form of this Fern, having tassels at the ends of the fronds.

CORDYLINE ERYTHORACHIS, is a variety of *C. STRICTA*, and has long, gracefully curving leaves, with a bright red midrib. As an ornamental-foliaged plant this was much admired.

TACHIADENUS CARINATUS, a pretty free-blooming plant, with flowers of the same character as *LAISIANTHUS RUSSELLIANUS*, but smaller and of a dark purple color.

The Fuchsias which attracted the greatest attention were **GARIBALDI**, with large flowers, scarlet reflexed sepals, which are rather coarse, and light purplish slate-colored petals, a fine habit and profuse bloomer.

LORD ELCHO, a fine large flower, with reflexed deep coral-red sepals, and very dark violet-purple petals.

PRINCE LEOPOLD is somewhat similar to the preceding, and received a First-class Certificate.

MINNIE BANKS is a very fine light variety, with white reflexed sepals, and scarlet petals.

NEGRO (Banks,) a bold, beautiful dark mulberry corolla, and scarlet reflexed sepals.

The *Collage Gardener* says:—"Messrs. Charlwood & Cummins, of Covent Garden, sent to the recent meeting a basket of *Broddignag Sugar Pea*, which bears considerable resemblance to the *Géant* of the French, but is more constant and not so apt to sport as that variety. The pods are of an immense size, five to six inches long, and an inch and a quarter broad, and crooked like a ram's horn."

The Gardener's Monthly.

PHILADELPHIA, OCTOBER 1, 1860.

✂ All Communications for the Editor should be addressed "THOMAS MEEHAN, GOTHENTOWN, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

TO ADVERTISERS.

✂ Copies of Advertisements, when they occupy an entire page of this paper, will be furnished to the advertiser, printed on good paper, for private distribution, at the low price of THREE DOLLARS per thousand. No insertion will find this an economical way of getting their Wholesale Lists and Abstract of Catalogues printed.

WHAT KIND SHALL I PLANT?

Those who have the public ear are popularly supposed to write from "a sanctum," and it is foolishly imagined that their epistles are indited in an "easy chair." It may be so in general, and for ourselves in particular we have no cause to complain. Our correspondents are reasonable, and our intercourse with them in the main is pleasant and agreeable; for all this we are never asked the question that heads our article, but we feel a few thorns amongst the rosy-petaled cushion on which we sit; and the *cacoe-thes scribendi* becomes so strong within that we cannot, however unwillingly, any longer restrain our pen.

What kind shall you plant? What a load of responsibility the answer involves! Perhaps it is a strawberry, and we say "Albany Seedling." "What!" exclaims our right hand neighbor, "you might as well recommend him to eat a pickled gherkin for his dessert as Wilson's Albany." "Oh!" say we, "you want something nice; try Peabody." "Too great a luxury," says neighbor on our left hand, "it wont do when you are hungry, you can get only enough for a taste." "And I," says No. 3, "would sooner have a bee-sip from a 'sac of mellifluous syrup,' than a whole dinner out of those 'bags of acid' you would have me grow." Dare any man to plant on good authority a kind as "the best in cultivation?" scarcely has he the crop planted before his neighbor advises him to root out "that worthless variety," and plant "Somebody's Perfection," or "Anotherbody's Wonderful," as "really the most extraordinary thing of the kind ever raised." So he roots it out, installs in its place the new favorite, and has "poor luck;" roots it out and "tries another;" next year repeats the process; and so continues, ever seeking for the best, missing the good, and always gathering nothing.

Amidst this Babel of opinions, is there to be no one voice that shall speak with authority, commanding universal respect? Is there really no rule by which

the novice about to plant shall be guided in the selection of varieties? Certainly there is, and that is the rule of collective experience.

No one man is capable of forming a reliable opinion on what is best for general cultivation from his own experience alone. We would take for "no more than it is worth," the opinion of any editor of any horticultural journal, or of any committee of any one horticultural society; they seldom see any more than the fruit, and this fruit only at one particular time, or on some particular occasion. Soil and climate and circumstances attending each grower's mode of culture, each have so marked an influence on the character of any variety, that a simple opinion is little above valueless for general purposes. The Concord grape, which was pronounced by competent and impartial judges worthless in the locality where it originated, has since been proved by the same gentlemen of great value in the climate of the Middle States. An Englishman would turn up his nose at a Bartlett pear in his own and its own country; but here, where it came as an emigrant, it holds a position which many a competitor of native origin envies.

It does not follow, therefore, that because a variety does well in one locality or one season, that it will always and everywhere do as well. There are two opposing principles extant in all plants—that which looks only to the present in gross and luxuriant growth, and that which looks to the future in the preservation of the species in the fruit. Providence and extravagance thus come into competition in the vegetable as in the animal worlds. Though neither can exist without the other, each flourishes only at the other's expense. If a plant have a tendency to produce free and vigorous growth or foliage, it is so much absorbed from the fruiting principle; and if it bears more than a fair proportion of fruit, the growth becomes correspondingly weak, and the tree stunted, and often worthless. Some manures and some climates favor growth, others favor fruitfulness; so the character of a fruit must necessarily vary with the conditions of its growth.

We have drawn a comparison between vegetable growth and the animal kingdom, and the illustration will serve us yet further. We all know what is meant by a well balanced mind; the physical and the mental character is so nicely adjusted that neither has the power to draw from the other more than its due share of sympathy and support; and the owner of such a character goes through the world less influenced by changing external circumstances than others more yielding, who seem to be little else than the footballs of fate. The latter stand well before their fellows in particular positions where there are no temptations, like the pilot who earns a good character for seamanship in a channel that has no shoals for his vessel to

become wrecked upon; but the former holds his own under the most unfavorable auspices and commands respect in whatever situation placed. And amongst plants the exact parallel is found. A new fruit makes its appearance. It was "the best amongst a thousand seedlings;" testimonials of its excellence flow in to the raiser; and it was a really meritorious production as it then appeared. It is let out to the public and proves worthless. We believe there was no desire to defraud. Its superior merits were fully believed in. But its constitution was not "well balanced,"—it became but the "football of fate."

These are annual occurrences, and what are the inferences to be drawn by those who inquire what kinds shall we plant? Simply to plant only those kinds which have been found by experience to do well in their own individual locality; or those which by having been tried in many different and widely extended parts of the country, prove worthy of a good character in all,—have a well-balanced constitution, and can be universally relied on.

It is the ability to afford this extensive experience that renders the meetings of the Pomological Society so interesting, and their proceedings so valuable. A kind that does extremely well under some special circumstances, and has justly its warm advocates, soon finds its true level amidst voters and votes from all sections of the country, on the question whether to recommend it to general cultivation. Axes for grinding are occasionally introduced, and the society dexterously employed to turn the stone; but with so many eyes intent on spoiling such sport, the chance of obtaining a keen edge to the instrument is extremely small.

Horticultural societies have been in their day amongst the best guides in the inquiry—what kinds shall I plant? But they have been standing still. The publication of their proceedings in any form that will benefit the public is rarely even thought of. In this active world, where all stand-still projects are rapidly thrust aside, pomological gatherings become a necessity, and are in more harmony with the age. But they are not what the necessities of the age demands. We want EXPERIMENTAL GARDENS in some half a dozen points on the continent, before the public shall reliably know "what to plant;" not only in fruits, but in trees and flowers also. This we must and will have before long. What city will be the first to have the honor of inaugurating them? The great problem hitherto has been how to make these gardens self-sustaining and worthy of the objects of their existence, and yet not merely do no injury to, but actually receive the support of, commercial gardeners. It has never yet been successfully accomplished in Europe, where we are accustomed to look for most of our ideas in the gardening line; but we

are well assured that we can do it here nevertheless, and hope some of our readers will weigh the matter over in their minds, and make whatever suggestions in our pages they may have to offer bearing on so desirable an end.

INTERIOR ARRANGEMENT OF GREEN-HOUSES.

(See Frontispiece.)

We have repeatedly suggested that much more interest might be manifested in the arrangement of greenhouse plants than there is. Usually, glass houses are mere depots for the winter storage of plants. By tasteful arrangements of staging, the introduction of ornamental brackets, and the employment of trailing vines and hanging plants, beautiful effects can be accomplished with small means, even in houses with the most formal arrangement of the staging, the plants may be so varied in heights and in collections as to give great variety and naturalness to the appearance.

We have, through our back numbers, called attention to the subject, and frequently given illustrations so as to afford hints for improvement.

The present shows the interior of Messrs. Krelage's Winter Garden at Harlaam, where the principal plants relied on for show are Dutch bulbs.

MR. RATHVON'S ESSAY.

The immense amount of injury annually inflicted by the attacks of insects, not only on the fruit grower, but on the whole agricultural and horticultural interest, is constantly on the increase. The knowledge of the habits and peculiarities of these noxious insects, becomes, therefore, of the first importance.

But there is also a class of insects that aid the fruit grower; a carnivorous section that makes war on the other division, and fattens on the spoils. A knowledge of the characters and habits of this portion of the insect world is scarcely second in value.

Mr. Rathvon's essay embraces both these branches and is believed to be the most complete and comprehensive effort to make the whole subject plain to those uninitiated into the technicalities of science ever attempted. In addition to the practical value of the essay, Mr. Rathvon's distinguished position as one of the leading entomologists of the continent, enhances its merits as a scientific production.

In preparing it for the Fruit Growers' Society of Eastern Pennsylvania, no idea was entertained of its being published in the present form. Its rare merits caused a universal desire amongst the members to have it extensively circulated, and the manuscript has been placed in our hands for the purpose of publication.

Fully entering into the Society's opinion of its value to the general public, we have determined to do it full justice, and have therefore, by the kind assistance of Mr. Jacob Stauffer, had plates prepared of the insects to accompany the text. We shall incur a much heavier expense than we contemplated, when we projected the *Gardener's Monthly*; but our past experience teaches us that when we give our friends, as we have often done, more than we bargained to do, they in turn do even more than we can expect of them to increase our circulation, and we feel rewarded.

DISCUSSIONS & TRANSACTIONS OF THE EIGHTH SESSION OF THE AMERICAN POMOLOGICAL SOCIETY.

We are gratified in being able to lay before our friends, in an extra, the verbatim report of the proceedings of the late session of this most excellent and useful society. It was made by our own reporter, and will be found well worthy of perusal. The address of the President, Marshall P. Wilder, is also replete with useful advice and timely suggestions, and is a most able and eloquent exposition of the aims and objects of the society.

This report has been procured and published by us at considerable expense, and this fact will, we are sure, be appreciated by our patrons as another proof of our desire to make this periodical not merely an aid to the horticulturist, but a necessity.

Extra copies of these transactions can be furnished to non-subscribers at the rate charged for single copies of the *Monthly*, viz., TEN CENTS.

Questions and Answers.

RAISING WHITE PINE SEEDLINGS.—*W. A., Groveland, Ind.*—You will oblige me by saying in your October number of the *Gardener's Monthly* if putting glass over beds of White Pine seed will be essential or advantageous in causing them to germinate; and, after germination, how long should the glass remain?

[White Pine, as well as all conifer seeds of a similar nature, are best sown very early in the Spring—say February or March. A bed of light, sandy vegetable-mould should be prepared, and frames set on, raised from the bed at the four corners, so as to admit the air. The glass on the frames should be whitewashed, and kept always on for the purpose of keeping off heavy rains and retaining a moist atmosphere over the seedlings. It is not well to sow thickly. If not sown till April or May, the seedlings damp off in hot weather.]

PEACHES, ROSES, &C.—*J., Nashville, Tenn.*—Will the peach succeed on the stock of the common wild

plum? If so, could we not avoid the "yellows" and the borer by a resort to that practice, and thereby produce peaches in soils and situations not naturally suited to the peach stock, and procure greater longevity for the tree? (1.)

At what time should roses which have been bedded-out in the Spring be re-potted for the greenhouse or for transportation? (2.)

Is not the "Tear Blanket," spoken of by Mr. D. O. Reeder, in the August number, the *Aralia spinosa*, instead of *Xanthoxylum fraxineum*? (3.)

Does the essay of Ida in the August number come within the design of your valuable periodical, which is usually so eminently practical? (4.)

[1. Our belief is, that whatever tends to injure the sap of the peach tree brings on constitutional diseases, of which the "yellows" is one of the worst forms. Excessive luxuriance, followed by severe Winters, is one of the most frequent causes of this natural weakness, and which is removed by employing a stock which checks exuberant growth. We have no doubt plum stocks will come into extensive use for the peach, though it also is not free from some objections.

2. As soon as the first frosts cause the leaves to drop.

3. Mr. Reeder's description would apply to either plant. The suggestion of "J.," he being a "Tennessean," is more likely to be right than our own.

4. It is very difficult to decide what is the point beyond which an essay ceases to be "practical." "Ida's" essay was certainly on the boundary; but we gave it the "benefit of the doubt," and we are sure it was read with pleasure by many of our readers. With such a great variety of tastes that flock to their monthly meal around our table, we have to provide a variety of dishes,—fish, flesh, and fowl.

"Ida's" sketch was a little too long,—not altogether her fault, however, as she was certainly not aware how greedily every inch of our journal is devoured by horticultural epicureans; but we know she will take "J.'s" hint in all kindness, as we are sure it is meant, providing "J." will occupy with his practical pen the portion of space she resigns to him in shortening the length of her pleasant lectures.

TRITOMA UVARIA.—*N. H. R., Springfield, Ill.*—I have a Tritoma now flowering finely. I cannot find in the periodicals which I take, practical instructions as to the treatment of the plants during the winter, and I write to suggest to you to prepare an article for the next *Gardener's Monthly*, giving, in a plain, practical form, directions for the culture of this desirable plant in our country.

Our winters in Central Illinois are very cold commonly, the thermometer generally touching 10° to

12° below zero, and sometimes going down to 20°, while our rich, deep soil and late autumnal rains occasion vegetation frequently to remain in full growth until the time for severe frosts. Many things which stand out well with you during winter are in consequence winter-killed with us.

We are advised, in the works on horticulture, to "take up" or "lift" various tender and half-hardy plants in the fall. An article from your pen on this subject, giving the details of the process as applied to the very different kinds of plants which may advantageously be "lifted" for winter-keeping, the time for each kind, etc., and their treatment in cellars, cold frames, etc., during the freezing weather, and also when they are returned to the open ground in the spring, would, I have no doubt, be very acceptable to many of your readers.

What your readers want generally is, *your advice*. This, I think, we are mostly quite willing to follow, without troubling one of your judgment and knowledge for reasons.

[Reasons for our practices are useful in this, that no method of procedure that is successful in one case invariably produces the same result in another. By understanding the reasons for a practice, one is better able to adapt that practice to varying circumstances. Certainly it is a common fault to give too many reasons and too few facts.]

Tritoma uvaria is very easily managed. As soon as the first frosts have injured the ends of the leaves,—here about the first of October,—with a spade lift up the plant as you would a carrot,—shake off all the soil. If you wish to propagate, take part of such suckers or offsets as will readily separate with roots to them. Then cut away about two-thirds of the leaves from both old plants and offsets, and set into pots just large enough to hold the roots without cramping them. Any light garden-soil will do. Water well immediately after potting, and set in any light shed for a few weeks, till the approach of severe frost, when they may be placed in a pit, or cellar, or any place protected from frost till April, when they should be taken out and at once planted in a border of rich garden-soil. While in the cellar they will need only so much water as will barely keep the soil from turning to dust, and no more warmth than will just keep out frost.

Plants "lifted" or taken out of the ground and repotted, always wither afterwards, more or less. The less they wither, the more successful the operation; not to let them wither if we can help it, is, therefore, the secret of success.

First cut off any young green succulent shoots that may yet be in a state of growth at the end of the branchlets; make a basin around the base by drawing away the soil, and pour in enough water to soak

thoroughly down about the roots of the plant; then lift carefully with the spade, getting all the roots possible. If the plant has an abundance of roots, it will not need any more shortening of the branches; but if the top seems out of proportion, cut away more. Pot as soon after taking up as possible; water well to settle the soil about the roots, and set at once in a cool, shady place, where the air is not dry.—Gardeners generally use their potting-sheds for the purpose. Every day sprinkle the plants with water to check evaporation. Any leaves that seem to continue withered for a few days, should be constantly taken off till the plant seems able to maintain all the rest without suffering them to droop. After remaining as long in the shed or shade as the weather will safely permit; all with firm, hard wood may go to the cellar, and the more succulent kinds to the pit or greenhouse, where they can have light occasionally through the winter.]

DEMOCRAT PEAR—*Mr. R. A. Grider, Lehigh Co., Pa.*—Very fine specimens, and equal in quality to those we have the two past seasons spoken favorably of.

BLOOM GRAPE—*From F. F. Mercer on, Calawissa, Pa.*—Very fine, showy bunches, nearly equal in beauty to the Union Village. We think it well worthy of trial, as locality, after all, determines flavor.

HARDY RASPBERRIES—*W. S., Fairy-mead, U. C.*—New Rochelle or Lawton Blackberry is quite hardy here. Occasionally, in soils where growth continues late, the tender points get killed.

Brinckle's Orange, Old Red Antwerp, and the Allen are amongst the hardiest of raspberries in this section. Your notes on Lawn Plants will interest, and shall appear next month.

AMATEUR PROPAGATING-POT.—We continue to receive inquiries where these are to be obtained. S. Maupay & Co., whose advertisement will be found in the proper column, inform us that they have undertaken their sale, and will receive orders for them.

SEEDLING STRAWBERRY.—August 28th a small box reached us, with some strawberries of good flavor and of medium size, but with no name or date to indicate from whom or whence received.

GRAPES—*Wm. Aldrich, Groveland, Ind.*—A neighbor of mine has an Isabella Grape on a Balm of Gilead tree, bearing full crops of grapes, while vines on a Black Locust generally rotted. Another neighbor had a vine, one branch of which extended from a Locust tree to a Balm of Gilead tree, with the same result between the different branches of the same vine, though on the two respective kinds of trees.

[Grapes invariably thrive better when their branches get to run over trees. The reason for this is not very clear to any one. We never noticed that they preferred any one kind of tree to another, and we should judge that the branches on the Locust owed their weakness to some other cause independent of the Locust tree. However, the coincidence is certainly suspicious, and it is worth further observation.]

A Subscriber, Rochester, N. Y.—In the July number of the *Gardener's Monthly*, the lithograph of the New English Strawberry, the Wizard of the North, (or more properly called the *Humbug of the North*,) does not correspond with the description of our English nurserymen. Inclosed is the advertisement of Mr. Turner, England, who describes it as rather small, medium flavor, good cropper. Please correct, and you will confer a favor on the public. (1.)

You say, in the description of New and Rare Plants, that the *Eleagnus parviflora* and *E. reflexa* are the same. This is not correct. I have seen them both at Messrs. Ellwanger & Barry's Nursery. The *E. parviflora* you describe correctly. The *E. reflexa* has curious spotted or rusty-looking shoots, and is a native of Japan. It will not stand our winters, while the *E. parviflora* is hardy. (2.)

Last spring I saw a new Willow imported, under the name of *Salix Babylonica violacea pendula*, which has turned out to be nothing more or less than the new American Weeping Willow. (3.)

[1. "Our English nurserymen" are often no better authority than any other. Our plate was from a copy taken from a plant on exhibition, and we have since seen a party who saw it in Scotland, and who assures us the size is not exaggerated. Mr. Peter Mackenzie, florist, of this city, fruited one in a pot,—the plant was imported this spring; and we are assured by a member of our Fruit-Growers' Society's Committee, who saw it, that it "was but very little inferior" to our drawing in size. We have noticed the quarrels going on in the English journals regarding it, and to which our correspondent alludes; but we have seen too much of "trade-quarrels" in our time to be ready to cry "humbug" on the faith of one party in a dispute. We want experience, not so-and-so's "say so." In the mean time strawberry-growers should act with caution, and not plant largely until it is proved all right and adapted to our climate.

2. If our correspondent means *E. parvifolia*, one of the plants in Ellwanger & Barry's Nursery, must be wrongly named. All botanists agree in considering *E. reflexa* but a synonym of *E. parvifolia*.

3. And the "New American Weeping Willow" is nothing but *Salix purpurea* grafted on a tall-growing species. "Our English nurserymen" may be no more reliable in strawberries than our "Subscriber" finds them in willows.]

NAMES OF PLANTS.—*A Subscriber, Harper's Ferry.*—Will you please give the name of the shrub of the leaves and seeds inclosed. The seed look like some that I purchased from F. Trowbridge & Co., Nurserymen, New Haven, Conn., for the Hop tree seed last year, and which failed to come up after planted. If these should be the Hop tree seed, we have them here in the greatest abundance.

[They are the Hop tree—*Ptelea trifoliata*. Unless the seed are sown as soon as gathered, they seldom grow till the second year after sowing. We insert the above note entire, as it shows how a little botanical knowledge might have saved a purchase, and more horticultural experience saved the destruction of a seed-bed, which was probably good.]

BOOKS.—*L. S. H., Holland, Mich.*—Is the Year-Book of Agriculture, by D. A. Wells, A.M., vol. I. published 1856, discontinued? I have not seen vol. II. yet. (1.)

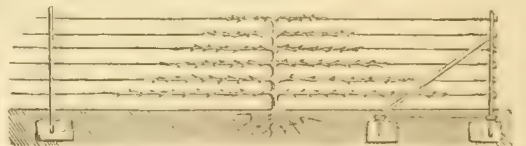
What kind of a work is the Year-Book of the Farm and Garden, by A. M. Spangler, and what is its cost? (2.)

[1. We believe it is discontinued.

2. 25 cents; useful, and well worth the money.]

ESPALIERS.—*B., Newport, Ky.*, asks:—"I often see allusion made in your journal to the term 'espalier' in the management of fruit trees. I should be obliged by information how trees are trained in this way."

Trees planted along fences or hedge-rows in France are called "*espaliers*," and the term has been adopted by English fruitists to designate trees trained in a direct line along stakes or wires.



The annexed illustration shows one trained on a wire, and the manner in which the wire frame is fixed in the ground. Poles of cedar, locust, or any durable wood, however, serves very well to train the trees to.

WISTERIA SINENSIS.—*J. F. S., Lewis Centre, O.*, says:—"What shall I do with my *Wisteria sinensis*? Every winter it dies down to the ground or below it, and every summer it makes a weak growth of three or four feet, but does not bloom. Last fall I laid it down and covered six inches deep, but found it dead, as usual, this spring. It is now about five or six feet high. I have Catawba and Isabella grapes on a strong (not gravelly) bank, with southern exposure,

made rich by being an old yard, and they act precisely like the Wisteria. In summer they make a weak growth, which the winter kills. Of course I get no fruit.

[The wood evidently does not ripen,—why, we cannot say. The soil may be too rich, or it may be near a drain where water is continually emptying, or some other cause that induces rank growth. The other question about cold pits was answered in our last number.]

NAMES OF PLANTS—*T. M. H., Lancaster, O.*—Not *Chamæbatia foliosa*, but an *Acacia*, probably *A. Farnesiana*, a native of Florida, and probably taken from there first to California.

SOLANUM CAPSICASTRUM—*C., Philadelphia.*—We thought so ourselves at one time; but plants we received in the spring from Hovey & Co., Boston, proved it to be very distinct from the common kinds, and we think it will prove desirable.

LEACHED ASHES—*J. H. C., Toledo, O.*—What is your opinion about the value of ashes made at the soap factories, as manure, particularly to mix with muck or swamp-mud? Is not all the available potash exhausted by the caustic materials used in the leaching? Is there much phosphate and carbonate left? How does it compare with unleached in value?

[We regard leached ashes as worth no more than the cost of hauling.]

HICKORY PEAR—*W. B., Baltimore, Md.*—There must be some mistake. No pear with such a hard name can be found "in the Philadelphia markets."

Books, Catalogues, &c.

Flora of the Southern U. S., containing abridged descriptions of the Flowering Plants and Ferns of Tennessee, North and South Carolina, Georgia, Alabama, Mississippi, and Florida. By A. W. Chapman, M.D., Svo. New York, Ivison & Co. Pp. 621.

Some years ago, when the mammoth trees of California were first discovered, and specimens were taken to England and there determined to be a distinct genus of plants and named *Wellingtonia* by Lindley, the national spirit of our countrymen was vexed that the noblest species of the American forest should be dedicated to the honor, not only of one who had never done anything towards the study of botany, and whose only known connection with botany was in mistaking the application of Mrs. Loudon for permission to look at his celebrated beeches, for an application to view the "celebrated" breeches he wore at Waterloo,

but of one whose whole life was spent in opposition to principles dear to every American; and that aroused spirit expressed its preference loud and deep for the time-honored name of Washington in the connection. The English journals retorted, that if we wished our plants named after our own worthies, we should produce a race of botanists equal to the task of properly naming and describing them. Justly as this reproach might have then been deserved, we are well assured that it is now in a fair way of being wiped out. The great number of botanical works that almost weekly follow each other from the press, shows a widely pervading taste for botanical pursuits, which after all forms the real basis of more elaborate botanical works. No man can afford to spend his life in the study of any scientific pursuit for the benefit of the community, unless the public award him some means of subsistence in return for the benefits he confers. The purchase of his works is usually the only way in which society can return this obligation. The rapid appearance of scientific works shows that there is great encouragement for them; and it is a fact of which we may well feel proud.

Dr. Gray's "*Flora of the Northern United States*," has already reached two editions, and the demand for a more extended knowledge has now produced this work of Dr. Chapman's. The *Flora of the Southern States* has hitherto been somewhat of a mystery. With the exception of Elliott's *Botany of South Carolina*, and Walter's works, there has never yet appeared a work of original merit. Darby's *Botany of the Southern States*, made up mostly from the authors above noted, and the works of Nuttall, Michaux, Pursh and others, has been the principal text book, and has done good service in its day.

Dr. Chapman brings to the task *thirty years* of personal examination of the subject he has now written about; and it is needless to say that the manner in which he has accomplished his task has placed him in the foremost rank of American systematic botanists.

By Dr. Chapman's work we are now enabled for the first time properly to estimate the richness of the *Flora of the United States*. Adding his list to those described by Dr. Gray, we find there are east of the Mississippi, *three thousand, five hundred and nine* species; 817 exclusively Northern, 1084 exclusively Southern, and 1608 common to both North and South. In this it will be seen the South has by far the greatest preponderance of species. This is, however, in a great measure, due to Florida, which, with the half tropical climate which the Gulf Stream and the waters of the Gulf of Mexico secures for it, gives it a peculiar vegetation of its own. We note in a hasty glance over the work at least sixty genera that are confined exclusively to Florida. With such plants as Palms, *Zamias*, *Epiphytall* orchideæ, and other plants which

we are here accustomed to look after only in our hot-houses, no wonder Florida presents so peculiar a front in the display of her vegetable beauties.

There are a great many species described which appear to us to be published here for the first time, especially amongst the grasses and cyperaceous plants; and amongst the trees which more particularly interest us, we notice a new Pine, not given in our old text book, Darby—*P. glabra*. One genus appears entirely new, called *Leitneria*, and which is allied to our *Comptonia* or Sweet Fern.

We can only hope the work will have a good sale; the most unexpected results in this line could scarcely reimburse the author for the many years of study and research of which it is the result.

MR. COPE'S GRAPE ESSAY.—In the last number of the *Farmer and Gardener*, Mr. F. J. Cope takes exception to our notice of his essay on "Both Sides of the Grape Question." He does not seem to have much to complain of; indeed, he thanks—not the writer of the review—but "the Editor" for his candor and fairness in stating his argument; but as we did not think that Mr. Cope was ever likely to "achieve greatness" in his crusade against settled practices of grape propagation and culture, he feels called upon to make a personal attack on the Editor of this paper and his antecedents.

We shall not follow Mr. Cope into a discussion of the principles on which we presume he has obtained his *cue to cope* with the subject. If he did not, as he tells us, become an American citizen by his own choice and free will, as adopting for his home what he believed to be one of the noblest of countries; but owed his citizenship to the fortunate accident of birth alone; it is nothing to us, and we cannot, nevertheless, judge of his book by any other rule than that of its own merits.

It is obvious from the tenor of Mr. Cope's remarks that all he has to complain of is that we did not praise his book; and this he attributes to what he calls "ill nature." We can assure Mr. Cope that we entertain no other feelings than respect for him personally, and notwithstanding his philippic against "Mr. Meehan," if he should again appear before the public in an author's capacity, and produce anything we may deem meritorious, we shall be among the first to praise it.

Mr. Cope does not appear to be aware that it does not necessarily follow that a literary review must be written by the editor of the journal in which it appears. In the present instance it is not of much consequence, as his inference as to the authorship is correct; but the suggestion may save him from errors in the future.

Fruit Preserver's Manual. By S. Culver, Rochester, New York.

A very useful little tract; but the whole treatise is so evidently written with a peculiar species of fruit jar in view, that the directions lose much of their force however good they may be in themselves.

There is a growing species of literature which, while professing to be written solely for the public information, and for which the public are charged full price, but which, after all, is really an advertisement of some peculiar ware, the merits of which the whole work is shrewdly diluted with. We rarely now read an article in a magazine, or listen to a public lecture, or take up a new work, without being constantly reminded as we go on that there is "something beyond the work" more important to the writer. We have forbore to allude to any one case, because the evil is so common it would be unfair to particularize. The process is being so thoroughly "ventilated" by the press, and the schemes therefore,

"Gang sae aft aglee."

that we hope for a purer species of literature in future.

Book-makers comfort their consciences by assuring themselves that it is as easy to tell the whole truth in a book with their own individual interest uppermost in it as not; just as the old farmer told his son Jock, that it was "as easy for him to look out a good and handsome girl for a wife, who had the 'siller,' as one who had none." But "Jock" and the public will not believe these things. They are firm in the faith that they get the best bargains when they get only what they pay for; and we are sure they are right.

Renewal System of Training the Grape Vine. By W. Martin, Sr. Pittsburg, 1854.

The advantages of a gardening journal is in no way more apparent than in the number of facts and ideas it is continually bringing up and retaining before the public view. Here is a little brochure which appears to possess considerable merit, that has been six years before the public, and yet, we question whether one-tenth of our readers ever heard of it.

From a cursory glance, we judge the system is different from the old alternate renewal, as well as Bright's alternate plant renewal. We have received it too late for a careful perusal this month, but will refer to it again in our next.

Architects' and Mechanics' Journal. Published by Alex. Harthill & Co., New York.

This is an excellent publication, devoted to Art, Science, Mechanics, Building Progress, Engineering, and Sanitary Reform; and, we are sure, there are numbers amongst our readers to whom such subjects are of the first importance.

WHOLESALE LISTS.

Bristol & Williams, Dansville, N. Y.
W. R. Prince & Co., Flushing. Bulbs.
James Pentland, Baltimore, Maryland. Roses. No less than 136 kinds are here offered at wholesale.
C. Reagles & Son, Schenectady, N. Y. Extensively in the Plums.
H. Southwick & Co., Dansville, N. Y.
W. C. Strong, Brighton, Mass. New hothouse grapes particularly.
Smith & Hanchett, Syracuse, N. Y. A well-known firm, with their usual full and excellent list.
H. C. Freeman, Ravenswood, N. Y. Small-fruits mostly.
W. Hacker, Philadelphia. Agent for Fairhead & Sons, London. Vegetable Seeds.
O. B. Maxwell & Co., Dansville, N. Y. We notice that they propagate their cherries largely on the Early Richmond.
W. Day, Morristown, N. J. Trees, Seeds and Evergreens.
J. L. Darlington & Co., West Chester, Pa. Besides the regular stock, largely in Seedlings.
Hoopes & Bros., West Chester, Pa. Contains much that is rare and valuable.
Evans & Co., York, Pa. Amongst many good things, the native grape list is very select.
Hoopes & Bro., West Chester. Grapes and Clematis; over 60 kinds of grapes are enumerated.
R. G. Schrader, Rochester, N. Y. Horticultural Agency.
Asher Hance & Sons, Red Bank, N. J. Peaches.
Petersen Bros., Herman, Mo.

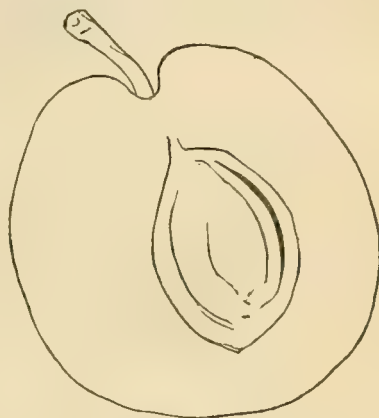
DESCRIPTIVE CATALOGUES.

Fahnestock & Sons, Toledo, O.
Altwood & Cooper, Lake Mills, Wis. Descriptive List of grapes adapted to their latitude, which will be read with interest.
Peters, Harden & Co., Atlanta, Georgia.
C. P. Hale, Calhoun, Kentucky.
Lewis Nicholson, East Rockport, O.
T. C. Maxwell & Bro., Geneva, N. Y.
D. Maupay, New Orleans, La. Seeds, &c.
J. Van Buren, Clarksville, Geo.
D. Griscom, Woodbury, N. J.
W. Bright, Rising Sun, Pa. Descriptive of foreign grape vines.

We are indebted to numerous Horticultural and Agricultural Societies for their schedules, reports, &c., and also to many invitations to attend, of which we have availed ourselves whenever circumstances permitted, regretting that in many cases where we would gladly have been present we were unable to do so.

New and Rare Fruits.

KOHLLENKAMP PLUM.—A seedling raised by Mr. Kohlenkamp, of Philadelphia, and fruiting this season in the ground of Mr. Peter Raabe. The tree is represented as being of a vigorous growth, the fruit borne somewhat in clusters, giving the tree the arching habit of the pear, and produced in the greatest abundance. The fruit sent us is punctured with curculio marks, but are ripe and perfect nevertheless.



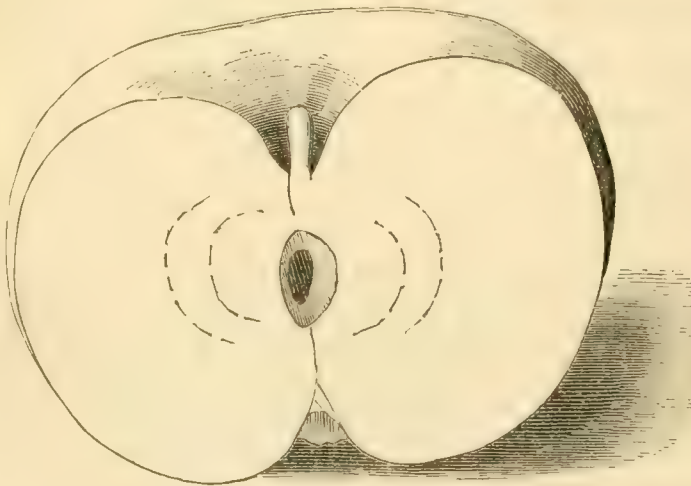
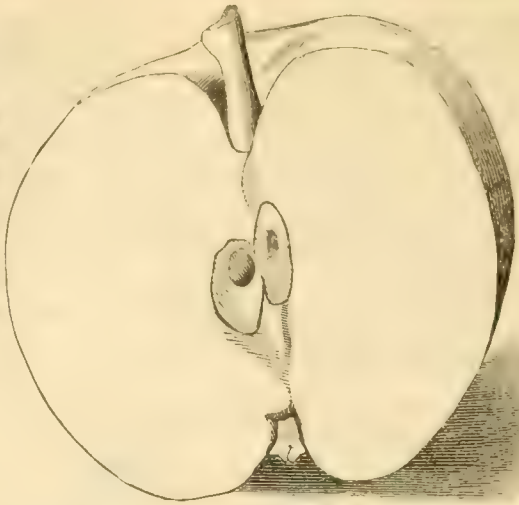
The following description we make from the specimen sketched:—Fruit rather large, roundish oval; suture running; skin amber brown, profusely sprinkled with deep cherry dots, (giving the fruit a reddish appearance,) and covered with a pale glaucous bloom; stalk rather short, in a rather deep basin; flesh amber color, solid and firm, of "good" flavor, with a rather large free-stone; ripe early in September. The Philadelphia Committee of the Pennsylvania Fruit Growers' Society consider this a distinct and valuable seedling, and we know of no one that it closely resembles; it approaches Denniston's Red in general character and appearance nearer than any other.

ANOTHER NEW ENGLISH STRAWBERRY.—*Ingram's Prince Arthur*, we notice, received the highest prize at the meeting of the British Pomological Society. There is no description given of it; but Mr. Marnock, one of the most reliable of British Pomologists, says of it:—"Prince Arthur is beyond doubt one of the finest strawberries in cultivation." It is getting to be a serious question whether we have not too many of the "finest" kinds.

MILES' GRAPE.—A West Chester, Pa., correspondent says:—"I went to see the *Miles' Grape* to-day; it is very nearly ripe; it is certainly the earliest grape we have about here." August 30th.

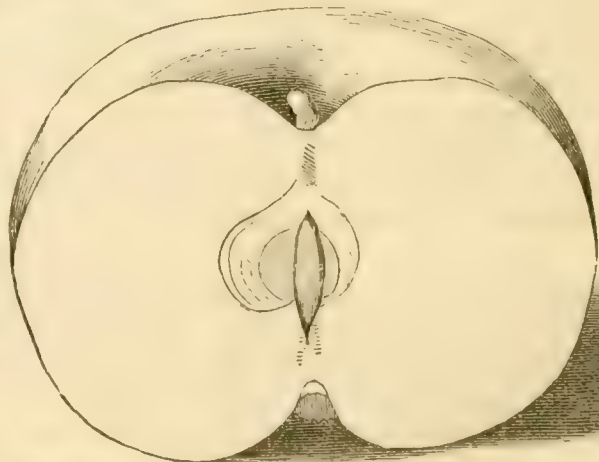
NEW SOUTHERN APPLES.—The following apples, received from Mr. Thomas Carter, Raleigh, N. C., appear to merit all that is claimed for them:—

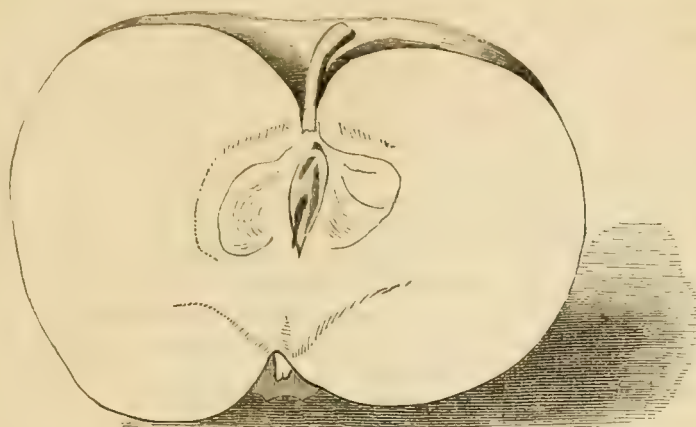
Olive Apple.—Origin, Wake Co., North Carolina; tree vigorous, straight grower; fruit medium, slightly conical, skin smooth, crimson with grey dots; calyx open; stem rather long and stout, in a deep narrow irregular basin; flesh crisp, juicy, sub-acid. Very popular apple here, ripens last of October, and hangs well on the tree.



Billy Barker.—Origin, the farm of William Barker, Wake Co., N. C. Tree a splendid erect grower and good bearer; fruit large, green, oval, sometimes elongated; stem short in a deep narrow cavity, surrounded with russet; calyx open; flesh yellowish, juicy, tender, brisk vinous flavor; ripens last of August.

Nectar.—Origin, near Raleigh, N. C. Fruit medium, oblate. Skin smooth, thin and quite green; calyx generally closed. Stem short, in a large shallow basin, surrounded occasionally with a little russet; flesh yellowish, extremely juicy, with a rich, saccharine flavor. Decidedly a No. 1 dessert apple. Tree a constant and abundant bearer. Ripens last of August.





Robert Bruce.—Origin, Wake Co., N. C. Tree of vigorous upright growth and good bearer; fruit rather above medium size, oblate; crimson shaded; calyx open, stem short and crooked in a round shallow basin, surrounded with green; flesh white, rather coarse, juicy and pleasant; a good eating apple. Ripens last of August.

FOREIGN CORRESPONDENCE. PLANTS FOR ADORNMENT.

SHEFFIELD, England.

I have frequently been solicited by several parties to furnish them with a list of select, beautiful, and interesting plants for the adornment of a pet stove and show house, many having experienced considerable disappointment in purchasing plants which turned out contrary to their expectations in more ways than one. Of course, those who commence ornamental gardening must expect disappointments, —cherished objects will die, in spite of all our best efforts to keep them alive; and we must be prepared to take the rose with the thorn in the same manner as we do with all our other pleasures or recreations. We should not calculate on large profits. We must rather seek for the higher enjoyment of receiving the knowledge we can obtain from them of their peculiar habits, etc., and accept their beautiful foliage or their sweet blossoms as an expression of their gratitude to us; and from these, coupled with the fact that we are sheltering and protecting the choice children of God, we must draw our gratification and derive our pleasure, and allow their influences to exert on us all the good they can give, and we receive from them. At the same time a judicious selection is of great importance. A person commencing business may purchase articles which are of little worth to him in extending his connection, and brings him more disappointment than profit. It is something similar in plant-growing. Some spend much money and reap disappointment; others are more fortunate. No doubt *all* plants are more or less interesting. No doubt many are very beautiful, which only can show their full beauty when afforded space, only attainable under peculiar circumstances. Palms, for instance, are a most noble family of plants, having much that is fine in their habit and deeply interesting in their history; but for to purchase Palms

by one who is only favored with the convenience of a low house, suitable for the culture of Ferns, etc., the mistake becomes palpable. Before they can arrive at the beauty point, they become too tall for the house, and they are displaced, and nothing remains to be seen for the labor which has been lavished on their culture. This point is not always considered beforehand. We must not attempt to grow every thing; some try this, and, of course they fail in some, perhaps in many. If we go about our work rationally, we will attempt to grow such varieties as experience warrants us in believing will produce satisfactory results. Some make strange mistakes in this matter. Instead of considering the peculiarities of the objects of their choice, they consult their own fancy merely. However we may pet plants, we cannot prevail on them to bend to our pleasure, because they move in obedience to natural laws, and must, of necessity, pursue one course, or sicken and die. For instance, a lady of our acquaintance, who, having been to see one of our great London exhibitions, was much delighted with a fine group of Heaths she saw there in bloom. She copied the names of about thirty varieties, and, on her return home, had forwarded the above number of very beautiful plants, in nice bloom and perfect health, which were furnished with a neat new green shelf in a fine, large plate-glass window in her own select sitting-room. One would have thought that any plant would (out of consideration for a lady's kindness) have bloomed for ever in such comfortable quarters; but they would not do so. In a few months they showed unmistakable signs of failing health, and we were told such a sorrowful tale of symptoms. They were watered with tea-water even, but to no purpose, and we were obliged to say they would not live unless certain conditions could be observed, which would not have been conformable to a sitting-room; and, until a suitable place was found for their

location, they continued to fade. We cannot expect plant-fanciers to *know* the difficulties there are in plant-culture; nor can we expect them, by reading, to understand all the requisites so necessary to insure success. It seems so easy to succeed when we are only reading, and, fancying what we wish to come to pass will do so, we sometimes forget the difficulties there are in the road, which are never insurmountable, if the governing agents of light, heat, moisture, and geographical position be taken into account, and means adopted to surround our pets with their proper and congenial element. Then we find plants are no respecters of persons or places. Their best looks and sweetest perfumes are freely bestowed upon those who care for them, and their radiant beauty is their quiet way of expressing their thankfulness. The first point to decide on is this—which class of plants is my favorite? The second point is—have I a suitable accommodation for the development of my favorites? When these questions are answered satisfactorily, success may be supposed to follow. Should we decide on growing Ferns, fine-foliaged and variegated-leaved plants, and have not a house suitable, then nothing better can be done than build one according to the plan furnished by us in a late number of the *Gardener's Monthly*, for which we subjoin a list of plants suitable, distinct, rare, beautiful, deeply interesting, and not costly.

CLIMBERS.

Cissus discolor—one of the most beautiful of climbing plants, particularly when grown in the shade.

Echites pictus—leaves most beautifully veined with golden ramifications, which it keeps best when grown in a small pot with poor soil.

Ipomœa pentantha—a beautiful, free-growing, and prolific blooming plant, with bunches of most beautiful blue blossoms.

Passiflora kermesina—a neat free-blooming plant, with crimson blossoms.

Lygodium scandens—the climbing Fern; grows freely and forms a charming ornamental plant either for pillar or rafter.

Lycopodium saliginella umbrosum—this elegant plant will grow several yards high, and, when deeply shaded, the fronds are beautifully tinged with a variety of colors.

BASKET PLANTS.

Æschynanthes pulchra—a bright vermilion flower.

Tapinia splendens—a free grower, fine green foliage, with small brilliant scarlet blooms.

Cyrtocerus reflexus—this very interesting plant is best seen when grown in a basket.

Achimenes—of different kinds for summer.

Some of the Ferns may be used to good purpose as basket-plants, several of the *Lycopodiums* being very suitable for this purpose. We might name *violacea*

or *denticulata*. We should also advise some of the *Gymnogrammas* or Gold and Silver Ferns for suspension. These are frequently spoiled by handling the fronds, in order to look at the beautiful gilding underneath the leaves. This operation is rendered unnecessary when the plants are hung up. The pots in which they grow may be merely plunged in baskets of moss, and hung up so as to be within easy distance of the eye. The baskets may be made of wood, cork, wire, or terra-cotta, or the plants may be suspended by fastening wires round the pot.

PLANTS OF PECULIAR INTEREST.

Sensitive Plant—raised from seed, and is sensitive to the touch.

Hedysarum gyrans, or *Desmodium gyrans*—this plant forms a nice companion to the above when kept in a good moist temperature; the leaves are in constant motion up and down, taking, as it would appear, spasmodic leaps, and seems more curious than the *Sensitive Plant* on account of its motion being voluntary. Known as the *Jumping* or *Whirling Plant*.

Venus' Fly-Trap—A most interesting little favorite, closing up its wonderful jaws when touched; generally grown under a bell-glass.

Ouvirandra, or *Lattice Plant*—an aquatic; a most wonderful plant; one of nature's select treasures; generally grown in glass pans, so that the skeleton texture of the leaf may be better examined.

Oncidium papilio, or *Butterfly Flower*—may be grown on a log of wood, or in a basket or pot, and should be placed in a prominent position when in bloom; we hide ours behind Ferns, etc., and the butterfly then seems as if it was on the wing, and about to settle. The coolest end of the house will suit this plant well.

Cypripedium, or *Ladies' Slipper*, or *Mocassin Plant*—there are some splendid varieties of these, but some of them are very costly; *C. insignis* and *C. barbatum* are more reasonable in price; they keep a very long time in bloom, and are general favorites.

Nepenthes, or *Pitcher Plants*—these are all worthy of careful cultivation; their extraordinary pitchers are objects of constant attention, and the skill, wisdom, and design so clear, that they have been described by a great writer as "an open chapter in nature's book which blind men may read." *N. distillatoria* and *lœvis* make a nice pair, and are not so costly as some others.

Australian Pitcher Plant—this little treasure grows best under a bell glass; it only grows a few inches in height, and should be surrounded with moss.

Sarracenia Drummondii and *S. purpurea* form an indispensable and desirable addition to the latter group; they are allied to them in habit and form, and are, when well-grown, most beautiful.

Papyrus antiquarum, paper plant—grows tall, sometimes ten or twelve feet high; if room is no object, it is interesting.

We will leave this list open for any or many kinds which we might name.

FINE FOLIAGE.

Cyanophyllum magnificum—the finest foliage of any plant in cultivation; indeed it is hardly possible to imagine any thing more grand and noble than this, and, as it grows fast and will occupy much room, we shall not extend our list of others in this class.—This plant should be potted frequently, and the leaves *should never be handled*.

VARIEGATED PLANTS.

Dracæna terminalis—a fine plant for ornamental purposes.

Aspidistra lurida variegata—a plant of pretty variegation and easy culture.

Pandanus argenteus variegatus—a very graceful and striking plant.

Goodyera discolor—a very handsome plant, having a very dark leaf.

Sonerila margaritacea superba—this is an improved variety; good.

Maranta vittata, and *M. regalis*—pretty striped plants of easy culture.

Caladium discolor, *C. Chantinii*, *C. argyrites*, and *C. picturata*—all worthy of culture, being distinct in character, color, and shape, and forming a very interesting feature in a collection of plants.

Tillandsia splendens and *zebrina*—two plants worthy of careful cultivation.

Begonia grandis, *B. Marshallii*, and *B. Gem*—beautiful plants, of endless varieties, easy culture, and useful for decoration.

Anætochilus argenteus, *A. zanthophyllus*, *A. setaceus*, and *A. Lowii*—the most beautiful plants yet introduced; of rather difficult culture; should be grown under a bell-glass, and kept well shaded in sunny weather.

FERNS.

Davallia canariensis, the Hare's Foot Fern—curious.

Adiantum trapeziforme, *A. concinnum*, *A. cuneatum*, *A. macrophyllum*, *A. pubescens*, and *A. formosum*—all these belong to the Maiden Hair Fern, and are worthy of room in the smallest collection.

Cassabeeria farranosa—beautiful silvery Fern, very fine.

Notholaena chrysophylla—neat and elegant golden Fern.

Gymnogramma chrysophylla—large golden Fern; fine.

Blechnum Braziliense, Tree Fern—makes a handsome centre plant.

Pteris argyrea—new variegated Fern of beauty.

Platyserium grande, *P. stomaria*, and *P. alcorni*—the Stag or Elk Horn Ferns; a most wonderful and striking portion of nature's most striking plants; will grow on blocks of wood or in pots.

Polypodium aureum—a most noble Fern, of easy culture.

Aspidium falceatum—a bright, glossy, bold-looking plant.

Ceratopteris thalictroides,—the Water Fern; most interesting.

Cheilanthes farinosa—prettily powdered or frosted.

Gleichenia dichotoma—charming, but rather costly.

Hermionites palmarum—very distinct.

Nephrodium molle—very common, but pretty.

Nephrolepis pectinata—a fast-growing and elegant Fern.

Platyloma cordata—very chaste and beautiful.

The above have been selected because they are handsome varieties, distinct, and affording to the student an abundant opportunity of studying and examining, and so becoming acquainted with the classification of these wonderful productions of nature, with the aid of a moderate microscope, in the dull winter time; and the above varieties, there will be provided abundance of recreative employment, which cannot fail to surprise the observer, and cause deep reverence and admiration of that Power which could work so wonderfully, minutely, and well. For decorative purposes, they are most useful; their light and elegant foliage always looks fresh and pleasing, and, when mixed judiciously with other plants, they are the most effective and useful plants we know of. They can, in a general way, be grown amongst other plants, so as to occupy little space. They love the shade, and are satisfied with a corner in which other plants would not prosper. This is the way we treat them; but when we find one which we deem too beautiful to be left unseen, we make it a more prominent object by elevating it in some prominent place. When it becomes less pleasing, or when we have seen it until we care little about seeing it, we replace it in the shade,—not to neglect, or despise, or forget it, but to remember that we shall again want its beauty another day. Ferns are the most easy of culture of any plants, requiring only shade, heat, and moisture. They readily reproduce themselves, without any extra care or attention whatever, and these little ones are very useful in furnishing "Wardian" and other ornamental cases, which are now so frequently seen in many respectable drawing-rooms. We may say that scrap-books formed of tinted paper, with specimens of Fern-leaves, are often considered very acceptable remembrancers.

We conclude this article with a list of Lycopodi-

ums, also very useful for decoration, and may be grown in pans or pots, as fancy dictates. We beg to say we have tested the merits of all we have named, and can confidently recommend them.

Lycopodium denticulatum, *L. umbrosum*, *L. Schottii*, *L. Wildenowii*, *L. Lyalli*, *L. plumosa*, *L. lævigata*, *L. apodum*.

The last named variety is very useful for many purposes, such as planting round *Anætochilus*, &c. We have also seen it beautifully introduced in the collection of A. Jowitt, Esq., as a covering for the pot in which he grows his *Caladium argyrites*. The effect is charming.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The society decided to have an annual exhibition this year, as announced in our last report, but the articles shown at the monthly meetings on the 18th were of such superior merit and interest that the committee in charge decided to keep it open for the public another full day, but one want of sufficient announcement prevented the attendance its great merits deserved.

In the flower line, the novel points of interest were the variegated plants. In Mr. Buist's collection we noticed *Elaeodendron tectum*, a plant with something of the look of *Pæonia hortensis*, *Calceolium argyrites*, a small growing species, with numerous small leaves profusely spotted with sooty white; *Begonia Griffithii*, rex, amabilis, lazuli with a rich velvety surface, pica and grandis. There were other kinds, but these struck us by their distinctness. Mr. Joyce, gardener to Mr. Baldwin, had a very fine plant of the striking *Pedicularis discolor variegata*, one of the best of leaf plants. *Caladium Chantii*, in Mr. Eadie's collection, was considered one of the handsomest kinds of caladium yet exhibited.

Of the plants exhibited for the first time, a variegated althea, by Mr. Buist, promises to be popular, as it stands the sun well. The same gentleman exhibited *Salicaria purpureum*, with very striking foliage, and our new leaf caladiums: *C. Neumannii*, *C. Verschaffeltii*, *C. Houlbati*, and *C. sagittifolia polum*. Mr. Pollock, gardener to J. Dundas, Esq., had *Rhododendron Princess Royal*, with very striking waxy pink flowers. *Sternbergia lutea*, an old but very scarce bulb, was in fine flower, from Mr. Dreer.

One of the most improving points in the exhibition was the number of Ferns produced. The greatest fault struck us in growing the coarse kinds of rampant growth instead of the finer and more graceful kinds; a collection of this latter class by Mr. Buist, consisting of *Pteris argyrea*, *Cardiantes viscosa*, *Adiantum gracile*, *Asplenium platyneuron*, *Pteris caudata*, *Pteris serrulata*, *Nephrolepis acrostichum*, were very much admired. Those of the other exhibitors showed very superior growth and merit.

Among the collection of plants we noted nothing novel; the plants were all well grown, one of them—*Lantana alba floribunda* in Mr. Eadie's collection, about 8 feet high, was probably the handsomest thing of the kind ever seen at any exhibition. The Dahlias made a fine show; the first premium was awarded to Mr. Buist, consisting of Grand Turk, Fanny, Lollipop, Surpriser, Bugatelle, Lord Everley, Mrs. Church, Emperor, Mrs. Seacole, Napoleon, Baron Alderson, E. partero, King Loden, Dr. Gully, Cheltenham Queen, Papilio, Lady Popham. In Mr. Meehan's list, besides some already named, we noticed as very fine, L'Original, Mad. de St. Laurent, and Adrian Carvail. Mr. R. Scott and Mr. Dreer both had admirable collections of Roses; in the latter lot, *canari* commended itself to our notice by its deep yellow color, and David Pradel, a fine bluish purple tea. A design of grasses by Mr. Raabe was an original production, and a basket by Mr. Goehring, in which grasses and ferns were interspersed with flowers—had a fresh and charming appearance. Mr. Sherwood's *Hedychium gardenianum* charmed by its beauty and fragrance, and Mr. Dreer's seedling *Verbenas* were decidedly good, though not superior to other kinds.

There were a few items of novelty in the vegetable line.—Mr. Harrison's White Egg-plants being most conspicuous; and next, Mr. A. Felton, gardener to Mr. Duhring, had a curious production labelled new Red Egg-plant, which looked like a tomato stuck on an egg-plant, and on which many who thought they "smelled a mice," exercised their ingenuity in looking for the place of incrustment.

In the fruit line many excellent collections were presented; among Pears, we noted in Mr. Noble's, *Fredenka Bremer*, which made something of a noise a few years ago; and in Mr. Parry's, *Beurre superfin*, which is becoming highly prized. *Onondaga* and *Beurre Nantais* were also attractive. Mr. Sherwood's *Louise Bonne de Jersey*, were very highly colored and much admired.

Amongst the collection of Apples we noted in Mr. Noble's, one

marked "Carver," a red apple in the way of Baldwin, which we note here as there is another apple like the White Doctor, which is being disseminated under the same name.

The great show of the evening was the Grapes. Mr. Raabe's collection of natives embraced twenty-one kinds:—white, 1 Rebecca, 2 Maxatawny, 3 Clara, 4 Casady; black, of the Isabella type, 1 Christie's Isabella, 2 Pagan's Early, 3 Louisa, 4 Graham, 5 Isabella, 6 Logan, 7 Canby's August; black, of the Clinton class, 1 Mary Ann, 2 Elsbomb, 3 Marion, 4 New Cape; red grapes, 1 Diana, 2 Delaware, 3 Catawba, 4 Raabe, 5 Powell. As they were all ripened together in the small yard of Mr. Raabe, we thought it a good opportunity to test their merits as to quality, and have numbered each section in the respective order that they suited our taste. After all mere flavor is but one of many qualities that should stamp a good grape, and if all the necessary properties were weighed, the order of precedence would no doubt be considerably changed.

Amongst the curiosities of this department were a collection of six kinds of foreign grapes, from open air vines, by Mr. Baxter. Mr. B. had also amongst a collection of selected or improved wild grapes, a reddish variety very much like Delaware, but very foxy and worthless, and reminding us strongly of forms we have seen years ago in the woods along the Delaware, beyond Trenton and Easton.

Mr. Thomas, gardener to J. D. Whetham, Esq., had enormous bunches of Isabella, Diana and Rebecca, very tempting to the eye, but extremely worthless to the taste, and produced, we presume, by the ringing process, done too late to secure goodness of quality. The following is the award of premiums:—

The following persons had either plants, flowers, fruits, or vegetables.—W. H. Wayne, John A. Goehring, A. M. Spangler, S. W. Noble, James Eadie, Robert Buist, Henry Duhring, Robert Kilvington, William Joyce, L. Chamberlain, R. R. Scott, Thomas Meehan, James Matheson, John Pollock, William Parry, F. T. Firth, M. Hegarty, James Astley, John Sherwood, John Cook, J. B. Baxter, William Randall, P. S. Bunting, Charles Harmar, William Saunders, James D. Whetham, John Perkins, John Landers, John Joyce, A. W. Harrison, George Penn, Peter Crans, and Henry A. Dreer.

These several Committees made the following awards:—Collection of 20 plants, best to J. Eadie, gardener to Dr. Rush; second best to M. Hegarty, gardener to Joseph Harrison; third best to John Pollock, gardener to James Dundas; fourth best to William Joyce, gardener to M. W. Baldwin. Collection of 10 plants, best to Geo. Penn. Collection of 6 plants, best to James Eadie; second best to John Pollock. Specimen plants (pair), best to Jas. Eadie; second best to John Pollock. Specimen plant, best to M. Hegarty; second best to John Pollock; third best to J. Eadie. Collection of Variegated Plants, best to J. Pollock; second best to J. Eadie; third best to R. Buist; fourth best to W. Joyce. Collection of Ferns to R. Buist and to J. Eadie; the same premium for best, the former being the most rare and the latter the largest and most beautifully grown, therefore equally meritorious; third best to J. Pollock. Special premium to J. Pollock for new plants—*Rhododendron Princess Royal* and *Behmeria argentea*; also to R. Buist for *Solanum purpureum* and *Achmea discolor*, and four beautiful Caladiums; also to R. Buist for a collection of twelve well grown and beautiful Begonias and four variegated plants. The committee cheerfully testify to the skill shown by all the competitors, in producing such rare and beautifully grown specimens, which, as a display, has probably never been exceeded by this Society.

Dahlias—twenty varieties—best to R. Buist; second best to Thomas Meehan. Hardy Herbaceous Plants—twelve specimens—best to Thomas Meehan. Roses—twenty varieties—best to Henry A. Dreer. Designs formed of Fruits and Flowers—best to Wm. Joyce; second best to William Randall, gardener to James E. Mitchell. Design formed of Grasses—best to Peter Raabe. Design of Cut Flowers, best to John A. Goehring. Basket formed of Cut Flowers, best to R. Kilvington; second best to J. A. Goehring. Bouquets—pair, best to James Matheson, gardener to F. Yarnall; bouquet, single, best to R. Kilvington. The committee call the attention of the Society to a fine display of Seedling Verbenas exhibited by H. A. Dreer, also a very fine display of Camellia Balsams by George W. Earl, and a beautiful collection of Cut Roses by R. Scott, as well as a very superior display of Cut Petunias, over forty varieties, by John Sherwood.

MELONS, Citron, best to Wm. Parry; second best to Jas. Astley. PEARS, Collection, best to J. B. Baxter; second best to Wm. Parry. Pears, native, 12 varieties, best to J. B. Baxter; 6 varieties, best to Wm. Parry; second best to S. W. Noble. Pears, foreign, 6 varieties, best to J. B. Baxter; second best to J. Landers, gardener to S. T. Attemus; third best to John Sherwood. APPLES—General collection, best to John Perkins; second best to William Parry. Apples, 12 varieties, best to S. W. Noble; 6 varieties, best to Wm. Joyce. QUINCES—One peck, best to Wm. Parry, and a special premium to Mrs. Liggett for fine Regnier Pears, and one of \$3 to Chas. Harmar for fine Seedling Pear, Bartram.

FIXED APPLES—Three specimens in pots, best to Wm. Joyce. PEACHES—One peck, best to J. B. Baxter; second best to John Landers. PLUMS—24 specimens, best to Peter Raabe. GRAPES—Grown under glass, general collection, best to John Landers; Grapes, grown under glass, five bunches, 5 varieties, best to J. Matheson; second best to J. Landers. Grapes, native, grown in open air, general collection, best to Peter Raabe; second best to J. B. Baxter. Grapes, native, grown in open air, twenty bunches, best to J. D. Whetham; special premiums to A. M. Spangler for the

Flora seedling grape, a fine copper colored, high flavored, pleasant Grape, represented to be perfectly hardy in open air; also, to the same, for a moderate-sized, compact, juicy black grape, not named; also to J. B. Baxter, for 6 varieties of foreign grapes under glass; also to Peter Crans, for the Maxatawny grape, a highly flavored, sweet white grape, represented to be hardy in the open air. Potatoes, one bushel, best to Anthony Felton, gardener to H. Duhring, Celery, 12 stalks, best to the same; second best to John Cook, gardener to Rev. J. M. Richards. Tomatoes, Lima Beans, Dwarf Beans, Okra and Peas, half peck each, best to Anthony Felton. Squashes and Pumpkins, three each, best to the same. Cabbage, six heads, best to James Matheson. Egg Plants, six specimens, best to John Landers. Beets, Carrots, Parsnips, Salsify and Turnips, twelve each, best to Anthony Felton; second best to James Matheson. Vegetables, general collection, best to A. Felton.

EIGHTH SESSION OF THE AMERICAN POMOLOGICAL SOCIETY.

Pursuant to notice, the Society met at Philadelphia on the 10th of September, and it is generally conceded that it was one of the most successful, in every point of view, ever held. The contributions of fruit were very large, the greater part of the Union being represented.

Hon. Marshal P. Wilder, Dorchester, Mass., contributed 150 varieties of Pears; J. H. Stuart, Quincy, Illinois, 182 Apples; William Reed, Elizabethtown, N. J., 126 Pears; John Chambers, Burlington, N. J., 112 Pears; Smith & Hanchett, Syracuse, N. Y., 100 Pears; 30 Apples; Ellwanger & Barry, Rochester, N. Y., 240 Pears, 140 Apples, 68 Pears; Franklin Davis, Virginia, 75 Apples; H. R. Roby, Virginia, 22 Pears, 25 Apples; Oliver Taylor, 12 Apples, 6 Grapes; Col. Walter L. Steele, North Carolina, 11 Apples and Pears; Scuppernon Grapes; T. T. Lyon, Plymouth, Mich., 100 Apples, 19 Pears; Prof. J. J. Mapes, Newark, N. J., 24 Pears; Frost & Co., Rochester, N. Y., 20 Pears and Apples; Samuel T. Altemus, Philadelphia, Pa., 8 Pears, 5 Grapes; Col. D. S. Dewey, Hartford, Conn., Apples and Grapes; Wm. Parry, Cummington, N. J., 22 Pears, 22 Apples; Buffalo Horticultural Society, 9 Grapes, 37 Pears, 22 Apples; B. Stratton, 40 Pears and Apples; Edwood Thomas, Pennsylvania, 100 Apples and Pears; Hovey & Co., Boston, 25 Pears; I. B. Baxter, 30 Pears; Rev. George B. Ide, Springfield, Mass., 21 Pears; Dr. Boynton, Syracuse, 55 Pears; T. W. Field, Brooklyn, N. Y., a branch of Flemish Beauty Pears, 18 inches long, containing 24 Pears, weighs 19 pounds, tree planted two years. Mr. Loomis, of Indianapolis, Ind., Mr. Harrison and A. M. Spangler, of Philadelphia, and other parties also contributed to make up the splendid display.

The hall was beautifully decorated, and reflected much credit on the Committee of Arrangements.—Messrs. J. E. Mitchell, W. Saunders, and T. P. James. The names of some of the principal worthies in pomological science were emblazoned in laurel-wreathings.—Van Mons, Cox, DuRoi, and Downing occupying the foreground. The decorations themselves attracted no less by their worth than their brilliancy,—not the worth which the diamonds and jewelry of general society give to such meetings, but the jewels of pomology. Some of these, in the shape of Peaches and Plums in pots, from Mr. Wm. Saunders; four and five pound bunches of Grapes from Mr. Matheson, gardener to F. Yarnall, Esq.; magnificent Isabellas from Mr. Thomas, gardener to J. D. Whetham, Esq., which many lookers-on could scarcely believe were not produced by some conjuring process, gave a degree of interest to the Exhibition which the public well appreciated.

Among the matters which seemed to create most public interest in the body of the hall were first the Flemish Beauty Pears of Mr. Field. They were produced to their great perfection by having all the fruit taken off the side shoots while very young, and leaving none but these, which were retained on the strong leading shoot in the centre. Mr. Landers', gardener to Mr. Altemus, hot-house Grapes also attracted notice, for the fine size of their berries and excellent maturity. Specimens of Isabella Grapes on the cane, exhibited as having been raised under Bright's new system, formed also a centre of interest to an admiring crowd, who listened to the explanations of the exhibitor. In another corner a Cornelius Propagating-Pot, described in a late issue of our paper, was stocked with cuttings in a growing state and in various stages of development, and its originator, Mr. Cornelius, was kept pretty busy explaining his theory, and the principles in which his pot was one of the elements. Mr. Cornelius won golden opinions from all by the kindness and affability with which he took the trouble so disinterestedly to explain to the company assembled what his philosophical mind has so long and so successfully been studying. In addition to what we have already given of his experiments, he exhibited specimens of a mode of grafting, which, in a measure, combined the advantages of inarching with common grafting. We have only space here to show, by an illustration,



the idea. Next month we will describe the process. Dr. Boynton, of Syracuse, had some beautifully colored fruit, which had evidently

been so produced by some special treatment. The Doctor kindly explained the process so far as he felt warranted in the experiment, and attributed the color to the application of mineral manures; but he considered his experiments had not been of long enough continuance to warrant him in deducing any theory therefrom.

Of the new or rare fruits, though there was much to interest, there was very little that will probably stand the test of time. The Maxatawny Grape was in better condition than we have before tasted it, though not quite ripe. The Criveting or Blom Grape, raised by Mr. Mercer, of Catawissa, Pa., also looked promising; and one exhibited by Mr. Spangler, from the garden of Mrs. Hineman, of Philadelphia, since called the Flora, created considerable attention. We think none of the Grapes exhibited as novelties were superior in quality to others already existing; but other advantages were claimed for them by the raisers, such as hardness, earliness, or other points of which the company present could not judge. Of Pears, one raised by Nathaniel Clapp, of Dorchester, called the Clapp Pear, struck us as being one of the most superior.

Miss Percival contributed a very rich design for the ornamentation of the fruit-tables, made of fruit and flowers, and which was very much admired.

In the evening of the second day's meeting, Mr. T. P. James, the Treasurer of the Society, gave a soirée to all the members present, which will be long remembered by the happy participants.

We are under great obligations to many of the exhibitors and officers of the Society, who kindly placed at our disposal every facility for adding to our individual stock of information, on which we shall draw as occasion offers.

Of the discussions at the Society's meetings we have taken a full and complete report for our readers, which we present, in addition to our regular number, in the form of a Supplement.

We also annex a synopsis of the proceedings.

OFFICERS ELECTED.

TO SERVE FOR THE NEXT TWO YEARS.

HON. MARSHAL P. WILDER, Boston, President.

Thirty-eight Vice-Presidents, one from each State and Territory of the Union.

THOMAS P. JAMES, Philadelphia, Treasurer.

THOMAS W. FIELD, New York, Secretary.

The Treasurer made a report, from which we learn the following:—Balance on hand in 1878, \$258.94; received September, 1880, \$357; the total amount of expenditures \$418.30, leaving a balance of \$197.64 in the treasury.

A number of standing committees were announced by the Chair to serve for the ensuing two years.

The place of holding their next biennial session was then taken up and debated at length. It was finally agreed to hold the next session in Boston.

Mr. Field offered the following resolution:

Resolved, That the thanks of this Society are tendered to Mr. T. P. James, Mr. J. E. Mitchell, and Mr. William Saunders, the Committee of Arrangements for the Meetings of the Society, for the excellent accommodations and polite attention which its members have enjoyed.

The fee for Life Membership was reduced from twenty to ten dollars.

The list of Apples which promise well was taken up. None were stricken off; it, therefore, remains as follows:

LIST OF APPLES WHICH PROMISE WELL.—Broadwell, Buckingham, Cogswell, Fornwalder, Genesee Chief, Jefferis, King of Tompkins County, Mother, Smokehouse, White Winter Pearmain, Winter Sweet Paradise, Winthrop Greening.

To which list the following were, during the subsequent discussions, added:

Summer Sweet Paradise, Canon Pearmain, Fall Wine, Early Joe, Willow Twig, Limber Twig, Bonum, Stansil, White Pippin, Pryor's Red, Keswick Codlin, Rawley's Jeanette, Maiden's Blush, Pomme Royal, Summer Queen.

CURRENTS.

The previous list of this fruit comprises only three varieties which promise well—Versaillaise, Cherry, and Fertile de Pallan. Two varieties, the White Gondouin and Imperial Yellow,—the latter a new French variety,—were highly recommended, and, by vote, added to the list.

STRAWBERRIES.

The present list of varieties which promise well being Genesee, Le Baron, McAvoy's Superior, Scarlet Magistrate, Trollope's Victoria, Walker's Seedling, and Triomphe de Gand; only one addition was made—the Jenny Lind.

RASPBERRIES.

The present list of those that promise well comprises only four varieties:—the Cope, Catawissa, Thunderer, Walker. The additions are the Hornet and Belle de Fontenay. The Allen was, after much discussion, and with a strong minority vote in the negative, placed on the list of rejected fruits.

For the remainder of the fruits, see Supplement.

FRUIT-GROWERS' SOCIETY OF EASTERN PENNSYLVANIA.

This Society held a meeting at the Session of the American Pomological Society, pursuant to announcement, and adjourned, without transacting any business, till the first Wednesday in February, the place of meeting to be hereafter announced.

CINCINNATI HORTICULTURAL SOCIETY.

Meeting on August 25.

Amongst other matters the following interesting report by Mr. Heaver was read:

S. S. Jackson & Sons Nursery. Our visit here was pleasantly edifying and instructive. *New Grapes*.—We here saw for the first time fruiting in the West—the Rebecca, Garrigue, and several others of the new popular varieties, as the Proware, and one which Mr. Jackson has worthily designated, varying slightly from the other in the shape, and scarcely as sweet, yet possessing characteristics so similar to the others as to require close observation to detect the difference. The Diana Mr. J. discovered the first had such a propensity for this variety, to save them, he found it necessary to enclose them with mosquito netting. The shrubbery is fruiting here beautifully. Mr. J. has a nice stock of fine thirty looking vines of the different varieties. We here also found a fine collection of Peaches, fruiting on the Pears, including among them several new varieties, of which we must not omit noticing, his seedling L. Zoloth, which there is little doubt originated from the Seckel, bearing a strong resemblance in the habit of the tree and color of the fruit to that popular variety, but of more thrifty growth, and the fruit nearly double the size of its parent, whilst in color and general appearance it is much more prepossessing, although not quite equal to it in its present qualities of rich sweetness. We consider it a valuable acquisition to our list of native Peaches. The Hanover, a new variety from Pennsylvania, was another new variety with which we were favorably impressed. The Andrews, too, is a variety whose merits, your committee think, has not been sufficiently appreciated, we ate it here in perfection. Neither must we overlook the Kirtland, one of the most beautiful *Russel Pears* grown; superior to all the above in size and noble appearance, if not of first-rate quality, is the Onondaga or Swan's Orange. This variety, in all the various places seen by your committee this season, stands out a worthy competitor of our favorites, *Bartlett* and *Louise Bonne d'Jersey*. We think we must place this No. 1 on our list. This, with the Stevens' Genesee and others before mentioned, embrace a list of native origin which may challenge competition with any equal number of the best foreign varieties.

In the nursery we found a fine stock of trees of the varied kinds, and in fine condition. Respectfully submitted by

W. HEAVER, Chairman.

The following paper was read—

The Peach of the Horticultural Society

Mr. Pearson's recent remarks call for a list of the best pears for amateur culture—few varieties for each month—during the period of ripening. The following comprises only such as I have grown and tested myself. Better kinds may doubtless be substituted for some of them. A list for market purposes, should contain more of the larger and showy varieties.

July—Madame, Bosc d'Or.

August—Julienne, Bechtel.

September—Seckel, Belle Lucrative.

October—White D'Anjou, Duchesse d'Angoulême.

November—Dix, Winter Nette.

December—Beurre d'Art, Victor of Winkfield.

January—Glout Merveille, Lawrence.

February—Jambette, Easter Beurre.

R. BUCHANAN.

HARTFORD HORTICULTURAL SOCIETY.

AUGUST 16TH.

The Horticultural Exhibition, was the most successful ever held. The fruit-growers appeared to have taken a sudden interest in the matter, and not only were the tables all filled, but extra tables had to be provided to accommodate the exhibitors who contributed to the show.

Several bunches of well ripened Hartford Præfide grapes were exhibited by D. S. Dewey. In the floral department, the show far outstripped that of any previous exhibition. Mr. J. G. Barker had an extensive and most beautiful display of *Glaucolus Verbenas* and *Philas*. His *Verbenas* were seedlings, and much finer than some and more variable than any collection of imported ones of any variety we have seen in Hartford yet. *Fuchsias* in pots were numerous, the principal exhibitors being C. S. Mason, P. Fagan, gardener to C. H. Barnard, and James Boyes, gardener to George Beach.

The list of articles on exhibition numbered nearly 250, and it would be a long and tedious task to specify the meritorious. The committees have decided as to which, in their opinion, were most so, and awarded the following premiums—

Apples—Sweet Boga—T. C. Austin, 1st, \$1. A. W. Birge, 2d, 75c. Jas. Boyes, 3d, 50c. Strawberry—P. D. Stillman, 1st, \$1. C.

T. Webster, 2d, 75c. Red Astrachan—D. S. Dewey, 50c. Peaches—Bloodgood—Jas. Boyes, 1st, \$1. Thomas Brennan, 2d, 50c. Tyson—P. Jewell, \$1. Holman—Thomas Brennan, 50c. Beurre d'Art—P. D. Stillman, \$1. Early Catharine—A. W. Birge, 1st, 75c. L. A. Barber, 2d, 50c. Beardless Seedling—W. W. Turner, 50c. Apples—J. B. Russell, \$1. Black Hamburg Grape—Thos. Brennan, 75c. Lawton Blackberries—J. H. Most, 50c.

The Hartford Præfide of Col. Dewey was, we understand, ripe on the 15th of August, pretty good for lat. 42 deg. north.

INDIANAPOLIS HORT'L SOCIETY

The first annual exhibition of the Indianapolis Horticultural Society was held at the State House, on Wednesday, Sept. 10, commencing at 10 o'clock, A. M., and continued throughout the day and evening. In the list of premiums offered, we perceive that the *Gardener's Monthly* figures prominently and we hope an example will be followed by other societies. The officers of the society are: Executive Committee—George W. Means, David V. Cussey, Eric Locke, Alfred Harrison, Austin H. Brown. President—Alfred Harrison. Secretary—Austin H. Brown.

POMOLOGICAL SOCIETY OF GEORGIA.

A meeting of this Society was held at Athens, Tuesday, July 31st. The show of Fruit was very creditable.

The officers of the Society were re-elected, and consist of L. E. Berckmans, President; Richard Peters, Vice President; Wm. N. White, Secretary; James Camak, Treasurer.

FRUIT COMMITTEE, *ad interim*.—Wm. N. White, Chairman; Richard Peters, J. Camak, Dr. M. A. Ward, E. Bancroft, J. Van Buren.

The exhibitors were as follows—

E. Bancroft, Athens, 52 varieties of Peaches, 14 cling and 38 free; of these the Chinese Cling was the finest and most striking Peach shown. The Large White, the Old Mexico, and the Late Cling, a seedling, were also very fine. Walters' Late, Old Mixon Free, Cherreuse Tardive, were among the best of the freestones. Mr. B. also had 4 varieties of Nectarines, 4 do. Grapes, 3 do. Apples, and 3 do. Plums—total, 62 varieties.

P. J. Berckmans, Augusta, 22 varieties of Grapes, 5 do. Apples, 24 do. Peaches and 11 do. Pears—in all 62 varieties. Of these, among the Grapes, Pauline, Emily, Anna, Concord, Hartford Præfide, Delaware, Brinckle, and Rebecca, are American Seedlings, which were now for the first time exhibited, and attracted great attention. Among the Peaches were Huntley's Favorite, a seedling, and another large unnamed variety, worthy of special mention.

J. Van Buren, Clarksville, 24 kinds of Apples and 24 Pears—45 varieties. The King Tom Apple and Pemoerat Pear were new to the present. A fine collection.

D. Redmond, Augusta, 1 Peach, Chinese Cling and 11 varieties of Grapes, including Pauline, Concord, Venaugo, De Caradene's White, and the Ontario. The latter is certainly of remarkable excellence, and of the largest size. Total—12 varieties.

J. E. McDonald, Hamburg, 8 C. C. the Pauline and Black July Grapes—2 varieties.

Dr. J. C. W. McDonald, Woodward, S. C., 8 varieties of grapes, among which were Pauline, and Mary Isabella, a fruit introduced by him, but certainly very like, if not identical with, the Isabella; also, Purple Mania and Beau Jaepies, the latter one of the Chasselas tribe.

A. De Caradene, Woodward, S. C., 6 varieties of Grapes, including among them Pauline, and Caradene's White, a seedling of Mr. De C.'s, resembling a loose-bunched Warren, with white-transparent, rather small, berries, still too far from ripe to judge of their quality, but very promising as the first of an entire new race of white Grapes.

J. Gray, near Athens, 4 sorts of Apples, 1 Pear—5 varieties. Mr. Ware, near Athens, 1 Apple (Shockley) of the growth of 1889.

Mr. Daniel, near Athens, 4 varieties of fine Apples.

Mrs. L. A. Frankin, Athens, 10 varieties of Pear, 1 Nectarine, 3 Grapes, 3 Apples, and shoots of a new California Raspberry—17 varieties.

Col. J. R. Stanford, Clarksville, 3 varieties of Peaches, 3 of Apples, 5 of Pears—13 varieties. Some of the Apples were of remarkable size and beauty.

J. Camak, Athens, Camak's Reussel, a fine Seedling Pear—1 variety.

Wm. N. White, Athens, 43 varieties of Pears, 3 Apples, 1 Nectarine, 3 Plums, and 12 of Peaches—62 varieties.

Dr. H. Hammond, Athens, 1 of Grape and 1 of Peach—2 varieties.

Mrs. Dr. Hall, Athens, 2 of Grapes and 3 of Peaches—5 varieties.

Mr. Stevenson, near Athens, 1 Watermelon.

In all there were 311 varieties shown, embracing some 200 distinct varieties, nearly all of which were correctly named. The greatest advance made in the Grape of which, at the meeting ten years since, only about one third the number of varieties were exhibited that were shown at this meeting, and none equalled the excellence of the Delaware and Emily, now first shown.

WILLIAM N. WHITE, Secretary.



RUSTIC KIOSK, BOAT & BATH HOUSE.



RUSTIC BELVIDERE.

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DEVOTED TO

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THOMAS MEEHAN, EDITOR.

NOVEMBER, 1860.

VOL. II.—NO. 11.

Hints for November.



FRUIT GARDEN.

For a few years anterior to the present season, fruit crops of most kinds were so generally failures, that amateur pomology was at a sad discount; but the past season has been one of such general abundance, that the spirit for fruit planting is permeating all classes of society, and the desire for practical knowledge on the subject is expressed on all sides of us. Very much may be learned from failures,—and it is to be hoped that those who may have heretofore failed, lost heart, and yet imbibing the universal enthusiasm, are again entering into fruit culture with renewed zest, may have learned useful lessons from the past, that will aid them in the future. Most of our ideas have been brought from Europe, and many failures result from too closely copying what may be there essential conditions of success.

Most fruits cultivated in the north of Europe came originally from the south of that quarter of the globe, or from Asia,—countries warmer than those to which they are introduced. Hence it is necessary to grow them in the sunniest aspects, and in situations where every ray of heat may have its fructifying influence. This has been the rule here in our hot and dry climate, and it is one of the commonest observations of those who have southern or eastern sloping ground, that “it would make a delightful orchard.” To hint that a northern aspect is better, is the height of heterodoxy; and to attempt to plant such a spot, is suggestive of straight jackets and shaved heads, in the minds of your next door neighbors.

Except in the more northern portions of the continent, a southern aspect is the worst possible for all kinds of fruits, except where the one idea of earliness is all important.

So much has been said in this journal on the proper preparation of the soil for orchards, that it need not

now be repeated. We would only say, that a light dryish soil is the best to choose for the Peach. The Pear does best on a strong loamy soil. Plums much the same as the last. The Apple prefers a heavy loam, if on limestone so much the better. The Cherry does well in soils adapted to the Peach.

The Grape prefers a deep warm soil, but one that is not dry,—such as most limestone soils are after being trenched and drained. A partially shaded aspect is also preferable. Mildews and many diseases come from the drying influence of a full exposure to a July or August sun.

Probably most of our fruits do best in partial shade. The gooseberry and currant certainly do. The former must have shade; and if on the moist northern aspect of a wall, so much the better. The Raspberry prefers a rather moist soil, and partial shade.

In cultivating raspberries on a large scale they do best in hills, as the cultivator keeps them from crowding each other so much. For garden culture they are better in rows, the suckers to be kept hoed out occasionally as they grow; enough only being left that will be required for fruiting next year. Where canes are required for new plantations, of course a portion of the crop must be sacrificed to the suckers.

All raspberries are hardy where their canes ripen well; where the shoots appear not to have matured well they will have to be protected in winter by bending them down and covering with soil. Some tie them up to stakes and cover with rye straw, corn stalks or cedar branches. In soils where small plants are liable to heave out in winter, strawberries will need covering,—where this does not take place, they need no protection.

Apples, quinces, and plums, should be examined before frost sets in, and if any borers have effected a lodgment—a jack-knife and strong piece of wire are all the implements necessary; a man will go over several hundred trees a-day. It is a cheap way of preserving trees. If many of the remedies proposed by correspondents in our paper, have been tried and found effectual, such as tobacco stems, &c., there will be few borers to deal with in the examination.

The dwarf pear in particular has done so well the past season, that as its management becomes better understood, it is fast regaining its former popularity.

In choosing plants, select those that have been budded close to the ground, as when they are replanted the stocks should be buried an inch below the pear scion, which prevents the attacks of the quince borer. If a long stem has to be buried, the usual consequences of deep planting result, and do as much injury as the quince borer. Also in choosing, select, if possible, plants that have been raised from cuttings; for layered stocks have almost always a long deep tap looking root, on which dwarf pears do not do well. If we have to use such dwarf pear trees, better shorten some of this long trunk root before planting. Never plant what appears to be the stem of a tree far beneath the surface, under any circumstances, for disease will be most probably an ultimate consequence.

FLOWER GARDEN AND PLEASURE GROUND.

After the experience of the past season, some of the flower beds or borders will have proved to be exhausted, or from some circumstances unfitted for the perfect growth of flowers, and arrangements may be perfected at this season for ameliorating or even of replacing the soil altogether. Many kinds of flowers seem to like new soil—Verbenas and Petunias being particularly of this class. Occasion may offer through the winter of getting good soil conveniently, and the opportunity of helping the flowers next season with it should not be forgotten. Flowers particularly flourish in a well drained soil, and if the flowers exhibited any tendency to perish during last summer's drought, the beds should certainly be underdrained. The common horse-shoe draining tile should be employed, and the drains be dug at least three feet deep—following the natural fall of the ground. Over the tiles small stones may be filled in if they can be readily obtained, and over these, or the tiles if they are without the stones, a layer of small brush wood, shavings, or other litter, which is found to assist the process considerably. Where the flower garden is small, and from the nature of the surrounding properties draining cannot be accomplished, subsoiling is the next best thing to aid the flower beds. In stiff, heavy soils, which, by the by, ought not to be employed for flower beds if it can be at all avoided, many persons have the soil turned up to the action of the frost, which pulverizes the more solid substances; but we have never noted any very remarkable results from this process, though we are not prepared to agree with some authorities who have pronounced the practice old fogyish and useless.

GREENHOUSE PLANTS.

It is a common error to apply too much fire to greenhouse plants at once on housing them. For a month or so, the temperature should be as low as

consistent with safety, applying artificial heat only when there is imminent danger from frost. All the air possible should also be afforded them—avoiding always cold draughts. The hardier and the riper the wood can be secured now, the less fire they will require when the weather becomes colder. The most excitable plants should be placed as near to the direct rays of the sun as possible, excepting, of course, such as prefer shade—such as Camellias, Azaleas, Rhododendrons. Reflected light is not near as advantageous to light-loving plants, as the direct sun's rays and those of the morning sun are the most useful of all. Plants which are not growing much do nearly as well in the shady part of the greenhouse. Plants that it is desirable should form large handsome specimens, must be repotted as fast as the roots appear freely around the ball of soil in the pot; if they once become impoverished, the oldest leaves ripen and fall off, which is a loss to the plant. In growing fine specimens, it should be a point to maintain every leaf in perfect health to the latest possible moment; much of success depends on this. Camellias should have their buds thinned out if too many have evidently set—two or three good buds to each shoot is enough in the most vigorous instances, and where the shoot is weak, one is enough to be permitted to flower. Regularity in temperature and treatment is essential to successful Camellia growing. To be hot or cold, wet or dry, by turns, almost daily, is a fatal course of practice. Flowering annuals, that have been grown for winter decoration, are much improved by having their tops pinched off about this time. The individual flowers are reduced in size, somewhat by this practice, but they are produced in such great abundance, and the plants so much improved in appearance that it is an easy choice between the two practices.

It may not be amiss to say a few words here on window and cellar gardening, though what has been already detailed is much to the same effect. Plants in cellars must be kept cool—just above frost, and as moist as will be barely sufficient to keep them above what is understood as "dampness;" air on mild days will benefit. Window plants differ from greenhouse plants; in the air of a room being usually drier, and the plants will therefore be more benefitted by frequent syringings, than they would require in a greenhouse.

LARGE POTATOES.—A Florida correspondent of the *Southern Cultivator*, says:—On the better lands the product in Potatoes is incredible, as the Potatoes grow from year to year, for three years without becoming pithy I have seen them two years old, very large. I have been informed, by creditable gentlemen, that they have seen them as large as a nail keg.

Communications.

SKETCHES of PHILADELPHIA BOTANISTS

BY L.

V.—JAMES LOGAN.

Philadelphia has given to botanical science other names which she has delighted to honor. Logan, Wistar, and McClure were residents, Muhlenberg and Darlington, Conrad and Pickering may be included among her sons.

James Logan was a confidential friend of William Penn. He came to Pennsylvania with the founder when twenty-five years of age, and was immediately appointed Secretary of the Province, by the Proprietary. He successively filled with great ability and integrity the offices of Commissioner of Property, Chief Justice, and that of Governor and President of the Council. His intellect was powerful and his attainments remarkable. He was well versed in ancient and modern learning, and skilled in mathematics and in natural and moral philosophy. He wrote and published on various subjects in Latin and English both at home and abroad. He patronized men of genius and learning, and collected a valuable library, which he bequeathed to the Library Company of Philadelphia. He was educated a Friend, and highly esteemed for his virtues; but in one important point he differed from the Society, being an advocate for military defences. His sagacity, prudence and knowledge of business rendered him of great service to William Penn, to whom he was a wise counsellor and steadfast friend.

James Logan was an acute observer, and aided the science of the time. In 1735, he communicated to Peter Collinson an account of his experiments on Maize, which was printed in the Philosophical Transactions for that year. This was enlarged and printed in Latin, at Leyden, in 1739, and again published by Dr. John Fothergill, in both Latin and English, on opposite pages, in 1747, under the title of "*Experimenta et Melelemata de Plantarum Generatione*," or Experiments and Considerations on the Generation of Plants. These experiments were undertaken to investigate the sexual theory which had been first advanced by Dr. Nehemiah Grew, in his "*Anatomy of Plants*," published 1672 and 1682. They were repeated by Peter Collinson on *Lychnis diæcia*, and by other philosophers and were considered corroborative of Grew's assertions, and decisive of the question of the actual existence of sexes in plants.

Soon after the present view respecting the office of the stamens and pistils had been triumphantly established, Linnæus conceived the plan of a classification of plants, founded upon the modifications in number,

situation, connection, &c., of these important organs. This is the celebrated artificial system which bears his name, and which, by its simplicity, elegance, and general applicability, became deservedly popular.

Our American scholar was thus instrumental in advancing the cause of science by more securely establishing the foundations on which the system of Linnæus was built. The artificial system effected a complete revolution in the science of Botany, and gave an impulse to the study which has resulted in an intimate knowledge of the structure of plants and a comprehension of the laws by which their external forms are modified, so that natural groups may now be defined as accurately as artificial assemblages, and the chief obstacles to a natural classification are surmounted.

In honor of Logan, "*Logania*," of R. Brown, was doubtless named, and thence *Loganiaceæ*; this class includes the *Strychnos nux vomica*—from which strychnine is prepared. Also *St. Ignatii* or *St. Ignatius'* bean, *S. toxifera*, or Wooral, or Arrow-poison plant of the South American Indians; and *Spigelia Marilandica* (pink root), highly poisonous plants, improperly commemorating the name of him who lived for the good of his fellow men. Some of them are used in medicine—a practice which must become obsolete when society shall have become more enlightened, and learned that every measure of such substances is injurious or destructive whether administered empirically or *secundum artem*.

Logan passed his latter years in retirement at his country seat named Stenton,* near Germantown, Philadelphia. There he enjoyed, among his books, the leisure in which men of letters so much delight, holding an extensive correspondence with the learned men of different parts of Europe. There he penned his translation of Cicero's *De Senectute*, to which he added extensive familiar notes. The first edition was printed by Franklin, in 1744; and repeatedly reprinted in London and Glasgow. He made a translation also of Cato's *Distich's* into English verse, which was printed at Philadelphia. These were at the time believed to be the first translations of a classic in the western world; but they were anticipated by Sandy's *Ovid's Metamorphoses* in 1626. They were probably the first printed in America.

In personal appearance James Logan was tall and well proportioned, with a graceful yet grave demeanor. His manner was dignified, yet kind and engaging. He died in 1751, aged 77 years, leaving an example of cultivated intellect, unyielding integrity, enlarged public spirit, and talent employed for the good of the State, which should render his name

*The Logan Nursery of William Bright, is located on or adjoins this seat.

a household word, a cherished memory with every Pennsylvanian.

An English traveller, John Davis, thus speaks of his visit to the Loganian Library, in 1798:

"I contemplated with reverence the portrait* of James Logan, which graces the room, *magnum et venerabile nomen*. I could not repress my exclamations. As I am only a stranger, said I, in this country, I affect no enthusiasm on beholding the statues of her generals and statesmen. I have left a church filled with them on the shores of Albion, that have a prior claim to such feeling. But I here beheld the portrait of a man whom I consider so great a benefactor to literature, that he is scarcely less illustrious than its munificent patrons of Italy; his soul has certainly been admitted to the company of the congenial spirits of a Cosmo, and Lorenzo of Medicis. The Greek and Roman authors, forgotten on their native banks of the Ilyssus and Tiber, delight, by the kindness of a Logan, the votaries to learning on those of the Delaware."

ORCHARDS ON STEEP HILLSIDES.

BY C. B. OTT, PLEASANT VALLEY, PA.

Well do I remember when I was a boy, getting many a bump in the ribs from the plough-handle while working our steep hillsides for rye and buck-wheat, and not with the best of feelings toward our forefathers for clearing the timber off. I am frequently asked which is the best place to plant an orchard. My advice is to take the best land. I would always prefer a sheltered situation behind a hill or wood. Steep hillsides are generally objected to for planting an apple orchard; but I think a steep hillside is not the worst place, by any means. My hillside orchard is doing quite as well as any I have. It is in the form of a half circle, with a south-eastern exposure. I planted my trees in a half circle to suit the hill, in order to make it more pleasant to work, and also to keep it from washing. I think that trees can be placed much closer on a steep hillside than elsewhere to advantage. My method of cultivation has been to plough down from the upper side to within four or five feet of the next row. I plough the first furrow close to the row with one horse; I then plough the balance with two horses.

In four or five ploughings it will form a terrace that answers a very good purpose. I had also planted a row of nursery trees with each row of orchard trees, which did very well. By merely working from the upper side, the spaces are now level, or rather inclining a little back, which causes it to retain moisture much longer than it did before it was ploughed into terraces. The spaces between the terraces I use for strawberries, blackberries, seed-

beds, &c. It is also a first-rate place to raise early vegetables.

This side-hill used to be a regular eye-sore, but now it is the prettiest part of my farm. I think we can make no better use of our steep side-hills than to plant them with trees, if it were for nothing else than for the appearance. The grass growing on the terraces we used, when the trees were young, for mulching; drawing mellow ground on them from the upper side.

THE RIDGE AND FURROW ROOF.

BY E. G. KELLEY, M.D., EVERGREENS, NEWBURY-PORT, MASSACHUSETTS.

Mr. Editor:—

In looking over your September number, on page 267, R. W. D. says, "If any of your readers have had any experience with houses of this kind, I hope they will furnish it for the general benefit."

We can certify to one year's very gratifying experience, considering the locality and the objects intended by a roof of this kind, which were chiefly four:

1. Architectural correspondence with the dwelling-house, so far as is practicable with an entire and contiguous glass structure.
2. To give sufficient height in front for two floors or two stories,—a novelty, perhaps.
3. To refract the sun's rays at mid-day, and thereby prevent too much heat and burning, which no other plan could do with polished glass.
4. To admit as much light as possible; and to this end, the gutters and ridge-rafters are all of cast-iron. The glass is 10x12, double thick, first quality, of American manufacture, butted instead of lapped, set at an angle of 45° in the ridge, and the pitch of these four feet in fourteen, the width of the house. The front and one end are closed by common window-sashes, four by twelve feet, moved by weights. The other end extends to an L, and opens into a curvilinear lean-to, which has also iron rafters. The iron of these houses was painted and sanded twice before the glass was set. Not a pane of glass was cracked during the past winter. Snow frequently filled the gutters, but was never shovelled out. By our plan of heating the inside-border, we had a supply of rhubarb, radishes, lettuce, &c., and later, of raspberries, strawberries, and other fruits. Grapes are now introduced for summer fruiting. We think small ridges, with but one tier of glass on a side, is an improvement on the English methods, particularly for this country, where snow and ice are more frequent, and that such will yet be found well adapted to orchard-houses, early forcing, &c., and, if properly supported, may be extended indefinitely.

Ventilation from the roof need not be thought of.

* Burned, I believe, in 1831.

Fixed roofs of all kinds should be "fixed facts." Too much is said about ventilating plant-houses, and too little about dwelling-houses.

Should "D." or any of our horticultural friends ever give us a call to see for themselves, we will do more than the Frenchman who refused to rescue the drowning man because he had not been introduced to him!

We should be particularly pleased to see them and yourself on the 5th of October at a grand dinner and display of fruits, &c., at our Horti-agricultural Exhibition.

In closing, permit a question: Has any one in this country had successful experience in propagating conifers from cuttings, particularly the hemlock? If so, shall we hear from him?

[Just now we belong to the "Can't-get-away Club," which insists on a strict adherence to the stay-at-home rule. We hope some of our friends will respond to the invitation to give their experience on conifers.—ED.]

SPERGULA PILIFERA. AND OTHER LAWN PLANTS.

BY W. S., FAIRYMEAD, LOWER CANADA.

Much has been written on the subject of *Spergula pilifera* as a fit plant for lawns, superceding the necessity of mowing, by reason of its low and compact habit of growth. Many parties are giving it a trial, and it is said that the enthusiastic experimentalist of Wodenethe has reported favorably on it so far; whilst others are not quite so well satisfied with it, saying that it runs up tall and thin, showing a habit different to that attributed to it, probably from lack of rolling. It will be well, however, to suspend judgment as to the value of the plant for lawn purposes until it has undergone the ordeal of our dry and variable climate in summer, and the intense cold of winter, establishing its character as a plant fit to do away with the use of the scythe on lawns.

But why go to Sardinia in quest of a doubtful plant to suit our purpose, when we have at our very doors an humble native, admirably suited to the end in view? I allude to the common Knotgrass, (*Polygonum aviculare*), growing abundantly in our waysides; where, if subject to the tread of foot-passengers, it assumes a low, compact habit of growth, so close as to exclude any other plant from among it, and offering the softness of a carpet to walk on. It preserves its green color well in severe droughts.

We have also in cultivation another plant admirably fitted for the same purpose; though not a native in this latitude (46° north), it is perfectly hardy; this is called Moss Pink, (*Phlox subulata*); it grows quite compact and spreading; is soft and pleasant to walk on; and it has the good quality of preserving its beau-

tiful green tint in the hottest and driest weather; during the severe drought of last June and July, when every thing was burnt up that was not well watered, the grass on the lawn assuming the color of straw, distressing to look upon, the *Phlox* preserved its beautiful and lively green hue, even on the poorest sandy soil. One objection may possibly be taken to the *Phlox* as a lawn plant, if indeed it be an objection; during about four weeks in May and June this plant is in flower, and becomes covered with its gay pink blossoms, entirely hiding the leaves, becoming in the language of Shakspeare, "one-red," a very unusual color for a lawn certainly, but producing a striking and pleasing effect. I have had this *Phlox* as an edging for many years, an admirable plant for that purpose, and I find it spread so fast that I have made a beginning to substitute it for the grass on the lawn part of my flower garden; small plants put in a foot apart will, in a year or two, spread and cover the ground. All these plants would of course be kept low and compact by frequent heavy rolling.

Should, unfortunately, the *Spergula* fail with us, we can with confidence fall back on either of the native plants here mentioned, as likely to answer the end intended.

[The great objection to the plant our correspondent names, is, that they do not root strongly at the joints, so that it would be impossible at times to prevent their having a ragged appearance.—ED.]

VICTORIA REGIA IN THE OPEN AIR.

BY "SUBSCRIBER," CINCINNATI.

In your paper for October it is claimed that the *Victoria regia* was this summer grown for the first time in the open air in this country. We did suppose that our hog-killing city (Porkopolis) in these western wilds was behind you in all things but hog-killing; but I now discover my error. In the summer of 1858, Charles Anderson, whose residence adjoins Mr. Longworth's, obtained from him a root of the *Victoria*, and planted it in his small pond. It did not grow well that year. The supposed cause was, that there was not enough earth in the pond. In 1859 ground was put in the pond, and a new root planted. It grew more vigorously than in Mr. Longworth's greenhouse, which is within one hundred yards of Mr. Anderson's pond,—the leaves larger, and the flowers larger. A new root was put there, with a like result, this summer. Mr. Longworth sent roots for distribution to New Orleans; believing it will be their own fault, if all their low, shallow streams of water are not covered with the plant, and abound in flowers nearly all the season. The plant produces abundance of seed, which fall to the ground and yield abundance of young plants.

ENTOMOLOGICAL ESSAY.

Read before the Fruit-Growers' Association of Eastern Pennsylvania at its Meeting in West Chester, on the 13th day of June, 1860.

BY S. S. RATHVON, ENTOMOLOGIST OF THE ASSOCIATION.

(Continued from page 301.)

Indeed, the proper and effectual fertilization of the Strawberry, and many other kinds of berries, and especially those kinds which have the pistillate and staminate, or male and female flowers distinct, is greatly facilitated by the assistance of insects, although these helps belong to different orders of insects from what the grasshoppers do, and are more agreeable in their appearance and their associations.

The order *Diptera* contains also some very destructive insects, but the larger number of these confine their operations to decayed or putrid vegetable and animal matter. The notorious Hessian fly, and the Wheat fly or Wheat Midge, belong to this order (*Cecidomia tritici*, and *destructor*), and are beginning to have a wide distribution throughout our far extended country. This latter order, however distinctive some of its members may be, is not remarkable for its depredations upon fruit trees, or upon garden vegetables, the terms "turnip-fly" and "cucumber-fly" being misnomers, as those insects belong to a different order from those of the common or two-winged flies.

All of the destructive insects alluded to, seem to be endowed with the most extraordinary powers of reproduction; in some instances the whole body of the female, including even the thorax, constituting one immense matrix or ovary, filled with eggs, which are often plainly visible through the transparent integuments of the insect. When we reflect that the number of eggs deposited by a single insect, according to its species, is from ten to ten hundred or more during its life-time, and that several broods succeed each other during a season, we may easily imagine how orchards, fields and forests may be overrun with them, and fruit, and timbers, and crops be damaged or destroyed in an incredible short space of time. Blumenbach relates a case where 80,000 larvæ of a species of *Dermestes* had been counted, as infesting the *alburnum* or sapwood of a moderate sized pine tree, entirely destroying it. How many of these destructive insects are in our country at the present time, or may be developed in the future, we have no means of telling; but unless the counterbalance or enemies of these are also permitted to increase, we may be afflicted with them at any time, just as certain districts of Europe have been, or as our Central American and Mexican neighbors have been afflicted with the destructive grasshopper or locust, or as our own States are at times afflicted with the "Hessian-fly," the "army-worm," or the "bell-worm." It only requires a certain combination of circumstances, which we may never be able to foresee, in order to bring upon us, at any season, this most dreaded scourge.

But, notwithstanding the immense numbers of destructive insects we have to contend with, and their extraordinary powers of reproduction, there are still in existence a large number of insect's enemies; which, by that antagonism become the friend of man, although man himself, through wilfulness or ignorance, has not always manifested a just appreciation of their friendship.

At the head of these friends of man, on account of their pleasant associations, and the magnitude of their good offices, I must claim the privilege of naming the insectivorous birds, although there is a species or two that are not sufficiently discriminating to prevent them from destroying our bees, and others from purloining a little fruit. Birds destroy an immense number of insects in the larvæ state during the course of a season, which, on that account, never reach the mature state—never lay those colonies of destruction which they might have done had they been permitted to live, and consequently are never seen by human eyes. No remedies can be devised, in my opinion, better calculated to dislodge the larvæ that bore into the limbs of apple, peach, cherry and plum trees, than the searching bills of the various kinds of woodpeckers which are every year becoming more rare and more shy of the approaches of man.

The next in order, on account of their importance, are the poor, despised *bats*, who are on the wing often from dewy eve until the noon of night, in search of that crepuscular and nocturnal insect prey which constitutes the means of their subsistence. The bat is only equalled by the night-hawk and the swallow, who perform the same kind office during the day and evening that he does by night. As most insects are nocturnal in their flight, therefore, *bats*, according to their numbers, destroy more mature insects than the birds do. And yet these animals are mercilessly persecuted; fifty or sixty of them having been destroyed in a neighboring city, some years ago, in a single day, by some boys, to the great amusement of other "larger boys," who were urging them on.

The *Mole* burrows beneath the surface of the earth, and pursues its devious windings through the soil in search of worms or grubs or mature insects, to satisfy the voracious cravings of its active maw, and if, perchance, it should come above ground, it is in pursuit of its animal prey. True, it has been charged against the mole, that in its burrowings it destroys or exposes the roots of vegetation, but the soundest practical

conclusion of naturalists is, that it is vastly more beneficial to man than hurtful; and that to continue nature's equilibrium, it should be tolerated.

Another most active little friend of man is the *lizard* of our walls and fences; but, unfortunately for him, too, a strong and superstitious prejudice exists against him in the minds of many, because, forsooth, he looks so much like a snake. He feeds altogether upon insects, and is very successful, but perhaps indiscriminate in their capture. We may add to these the *toads* and *frogs* as no inconsiderable auxiliaries in the destruction of noxious insects. Skunks are said to be remarkably fond of the larvæ of the *Melolonthons* or "May-beetles," in our country sometimes called "June-bugs;" and as these larvæ are particularly destructive to the roots of vegetation, as well as its foliage, we must regard the aforementioned animals as friends, however offensive their presence may be; friends, I am sure, "the farther off the better loved," which, I fear, is not the case with all our *real* friends. We must add also some of our domestic animals, especially the pigs and the poultry. But by far the greater number of insect-destroying animals are among insects themselves; take for instance, the order *Coleoptera*, which includes the beetle tribes, and we find over fifty species of tiger beetles (*Cicindelidæ*;) all of which, both in their larvæ and perfect state, are most voracious destroyers of the weaker of their kind. There were nearly one thousand species of *carabidinous* insects in the United States, known to entomologists five years ago; all of which are predaceous in their habits, both in their larvæ and in their perfect states. Types of some of these insects, as well as of the destructive ones, are here exhibited. To these may be added about fifty species of *Coccinellans*, better known as "lady-birds." The most conspicuous and the most marked, however, among the *Culeoptera* in their habits, are those belonging to the genus *Curabees*, of Linnæus, including the modern genus *Calosoma*. It has been asserted by English entomologists that the gardeners of France and other continental countries, colonize and protect these insects among them, and regard them as of immense value in destroying the noxious kinds.

Even among the *Hemiptera* and the *Orthoptera*, we find a few that are predaceous in their habits; a remarkable example belonging to the latter order is the genus *Mantis*; this insect prowls about all season in pursuit of insect prey, and was superstitiously called the "praying mantis," by the common people of Europe, from the peculiarity of its attitude, when watching for the unwary of its race. In the order *Neuroptera*, we have the various species of "dragon-flies," variously denominated "snake-doctors," "devil's-needle," &c.; these are the most active and industrious insects among the whole class, being on the alert constantly, from morning until night, and in pursuit of prey; for, being the most perfectly organized in sight and flight, there are few other insects that can elude them. Mr. Howorth says he fed one of them six flies after he had struck off its abdomen, after which it flew away as if nothing had happened. These dragon-flies are as voracious in their larvæ and pupa states as they are in the perfect. The "lacewings," which in their larvæ state are so destructive to plant-lice (*Aphis*), also belong to this order.

But there is perhaps no order of insects more remarkable for the habits of many of its members in this respect than that of the *Hymenoptera*, a large number of which are parasitic upon other insects. The large family of *Ichneumonidæ*, or "cucco-flies" are all of this character, each seeking the larvæ of some other insect, into which it deposits its eggs. After their eggs are hatched, the young grubs that issue from them, feed upon the body of the caterpillar into which they have been deposited, which usually dies about the time they issue forth into the mature state, or soon after. There are species of these cucco-flies so minute that they deposit *their* eggs into the eggs of moths and butterflies, and their young find sufficient nourishment within the shells of these eggs to mature their state. Many of you may have observed the large green larvæ that infests the tomato, grape, and tobacco plants, having its body sometimes covered with little white or yellow silky follicles adhering by one end to the skin of the worm. These are each a silky cocoon, as perfect as that spun by the Chinese silk-worm, and each contains the pupa of a little cucco-fly, the larvæ of which had matured within the body of the worm upon which they are found. About the time they are ready to evolve from their pupa a perfect insect, the tomato worm dies, and if it has been a female, a thousand eggs, or young worms in embryo, are thus destroyed. The genus *Pimpla* in this order is remarkable in its habits. It is provided with a long ovipositor; in some species that instrumental organ being three or four inches in length. These *Pimplas* deposit their eggs in the bodies of wood-boring insects, and are led by their instincts to the place where these are, within the body of a tree, a limb, or a stick of wood. They also know whether the grub within the wood is within the reach of their ovipositor or not, and as soon as one is found that is approachable, they go immediately to work, and, by means of a sawing apparatus, which constitutes a part of the compound ovipositor, with which they are provided, they reach the wood-worm and deposit as many eggs in its body as will find sustenance there when they are hatched. When it is known that some of these wood-worms remain in that state two or three years, and in a few

cases even five years, living upon the woody fibre all this time, and that the *pimpla* perfects itself in one season, it will be seen that it is capable of doing much good, even if the mature insect should be under the necessity of boring a hole out, in order to reach the open light of day.

The "mason wasps" and also some of the common "mud wasps" carry off a large number of caterpillars of various kinds and stow them away in their cells to serve as food for their young during the larva state. I have often seen some of them have a grub in their embraces, so large that they could scarcely manage it, and found great difficulty in getting it in their cells. There is scarcely an insect grub that has not one or more parasites which prey upon it, and greatly diminish the probabilities thus, of their disproportionate increase. Even the wily "drop worm," or "basket worm,"—which only moves within its sack, that it carries with it wherever it goes, and is thus protected against the attacks of birds or bats,—has yet its enemies among the parasitic hymenoptera, as I have on several occasions discovered in my observations on the habits of that insect. I shall be able to say nothing at present about the *Diptera*, or "two-winged flies," because their habits are not so immediately connected with the interests of the fruit-grower, although there are a large number of them that are more or less beneficial in one way or another. Indeed, I think a thorough investigation of insect economy would demonstrate conclusively that there are *nearly*, if not *quite*, as many insects that are *beneficial* to vegetation and to man, as there are of those that are *hurtful* to them.

The great question, then, in regard to the remedies by which the rapid increase of noxious insects are to be arrested becomes one, in some measure, of *discrimination*, and this question of discrimination involves a *knowledge* of the habits of insects, the general economy of nature, and their identification in their various stages of development with the injuries inflicted, or the benefits bestowed, by them. I think, upon mature reflection, it will be conceded that all the power and ingenuity of man would have been of little avail in preventing a too rapid increase of insects, if the Deity, in the distribution of animal life, had not made the provision which I have feebly attempted to sketch in these remarks. And yet something *can* be done, and something *must* be done, by man; but it must be evident to all, that those persons who are engaged in agricultural and horticultural pursuits are most favorably situated for the collection and development of the necessary facts and experiences, which alone can impart a requisite knowledge of practical entomology.

Fruit-growers and cultivators of the soil, on the whole, have been looking too much to scientific entomologists for remedies against insect incursions, and not enough to their own observations and experience. They have opportunities of exploring and of testing remedies far superior to the *scientific* entomologist, who has been mainly engaged in collecting, dissecting, describing, classifying, and arranging insects into their proper *orders* and *families*, according to external and internal structure, rather than with reference to the injuries they do to fruit and vegetation, and devising remedies against them. True, if scientific entomological knowledge can be united with experimental or practical, it will make it more available; but if an individual forms a correct habit of observation, and goes to the trouble of noting down his observations, he may arrive at intelligent conclusions in regard to insect economy far superior of him who seldom or never goes into the forest and the field at all. The greatest *use*, perhaps, in scientific entomology is, that it constitutes a great chart, by which its students are, in some measure, enabled to calculate their longitude and latitude in insect history upon principles of well-defined *theory*, without enabling them, save by analogy, to know much about practical historical details; hence most of the descriptions in our scientific works on insects are short, and confined to their anatomical structure and the number of joints in their antennæ or their tarsi, together with their colors, and occasionally their locality, when that is known. But this is not the kind of knowledge that the cultivators of the soil want. They want to know something *more* about an insect than its color or its form, however necessary these may be to its identification—something more than its position in systems of classification; they want to know what it *does*, how it *lives*, and *where* it comes from or *whence* it goes, and also what are its uses or abuses. And who so competent to make this acquaintance as those who, by their daily occupation, are in constant contact with insect life?

But, as a matter of course, like all other subjects upon which the mind of man engages itself, books of instruction are needed,—books containing the *elementary principles* of our local entomology, as well as its *practical* details; for be it known that we cannot discard the *scientific principles* upon which entomology is founded, although we may not regard them as of the *first* importance in our every-day experiences.

Although a great deal has been written upon our local entomology which is scattered through the columns of agricultural journals, or the proceedings of scientific associations, yet there is no great work on American entomology extant. The late Dr. Harris' work on "Insect Injuries to Vegetation" is the *best* we have; but we need a work fully illustrated, and one that gives figures and descriptions of insect *friends*,

as well as *enemies*. Dr. Fitch's "Reports on the Insects of New York" is the next best; and to him and the late Dr. Harris the country is indebted for the only works on *practical American entomology* that have yet been published, if we except a small volume by Professor Jeager, entitled "Life of North American Insects."

There are quite a number of most excellent scientific contributions to American entomology from such men as Say, Abbot and Smith, Boisduval, Le Conte, Melsheimer, Osten Sacken, Haldeman, and others; but these being confined to classification and specific descriptions, or written in language not understood by the masses, or high in price on account of the limited editions sold, are almost a dead letter, so far as the interests of horticulture in general are concerned. In short, there seems to be two legitimate and distinct phases of the subject, which are necessary to make it a complete and harmonious whole.

In conclusion, if I have not discussed the subject of artificial remedies against the injuries of insects in this paper, it is because these remarks are too general to admit of specific antidotes being referred to in connection with them. Suggestions of this kind would, perhaps, be more properly embraced in a report of a committee, having direct reference to particular species, the injuries they inflict, and the modes of prevention. I may, however, be allowed to remark, that—without alluding to any *particular* antidote against insects, in the shape of mixtures of various kinds of ingredients, and applied to trees—most of the remedies recommended are entirely useless, so far as they are depended upon to drive insects *off* from vegetation. As a general thing, insect instincts are too prone to lead them *into* all manner of stench for these things to have any effect in *repelling* them, although there are some substances that are not agreeable to them. I may here remark, that insects, as a general thing, *have* a dislike to oils, greases, or gums coming in contact with their bodies; for these substances close up their air-cells and stop their breathing, and consequently produce death. Therefore oil is better than water in which to drown insects, because oil clogs their tracheæ and leaves them closed, and death takes place on account of its slow evaporation, and not on account of any thing obnoxious to them in its smell alone. These odors might drive them out of a close box or drawer, but it is quite a different thing where they have the freedom of the open air. The organs of respiration of insects are not located in the head, as they are in vertebrated animals, but are arranged along the sides, and, therefore, if we attempted to destroy one by merely immersing his head into a fluid or an odor, we should find ourselves "reckoning without our host." The best general remedy is *prevention*,—the interposition of some means that will prevent their rapid *increase*, or the allowing of the natural means in existence having their full and efficient force. Close habits of observation, together with that discrimination before alluded to, must in time develop the ability to use *prevention* as the *best* remedy. But in the mean time let every member of this Association constitute himself a committee-man on *Practical Local Entomology*, with a note-book and pencil in hand, and a collecting-bottle in his pocket. Let him be

"A chiel amang them taking notes;"

and when a reliable *practical* result is obtained, then let him "*print 'em*."

LANDSCAPE-GARDENING.

BY J. M. C., WESTERLY, RHODE ISLAND.

The article entitled "Suburban Gardening," in the June number, merits the thanks of thousands who have homes to beautify. It is so true and forcibly adapted to the condition of the art in this country, that every experienced landscape-gardener will heartily respond, and thank you for exposing the relative truth and agitating a matter of so vast importance to him and to every lover of the beautiful. The blunders of the uncultivated, and the uncouth productions of untaught aspirants to the art have too long been tolerated. The horticultural journals are almost silent on the subject; and to many a one who would blush to be thought any thing less than educated, the business requirements, yes, even the name, of a landscape-gardener is a mystery.

Since the death of Mr. Downing, in New York State alone you may find architects, surveyors, and artists, who have added the appendage of "Particular attention paid to Landscape-gardening," to their cards, quite an army; and these are the men chosen by the inexperienced employer to adorn our residences, public parks, and pleasure-grounds. They are all excellent men in their way; but the architect builds too much, the surveyor levels too much, and the artist knows not of what or how to produce the living realization of his picture. Some of these who profess "landscape-gardening" do not know a linden from a maple tree, and are ignorant of the commonest vegetable productions.

The true landscape-gardener must be a gardener, practically and theoretically. He is self-relying. He

has knowledge to create,—ability to execute. His mind foresees, and his own hand helps to work out his designs. He can tell you what kind of a place such and such will make, and what you should make of it. He will produce you a plan, the items of which he will stand ready to contract for, and to execute at a given sum; or, not contracting, he knows for you the price of labor, the kind of help to employ, —where every necessary article can be procured. He is well acquainted with trees and shrubs. He can tell you every minute trait in their character,—even how many varieties will live harmoniously together on a certain place, when they will look most gay, and when they will begin to look old; and well he can picture how lovely a group of them will appear in their varied robes ten or more years hence when arrayed for the May feast. He knows that the lofty and proud, and the weeping and humble love to be alone; so he places them just where they will look best and grow best; and they, in return, smile gratefully in a manner that sweetly wins you. The valleys, too, and ravines alike smile under his care, and the “little hills rejoice on every side,” because he spareth them. When he addeth or taketh from, his touch maketh perfect. He loves to preserve natural beauty, and embellishes nature with her own garlands. Of the nature of soils, and how to improve them, he knows what no architect, surveyor, artist, or untutored citizen ever knew; and on just such knowledge it is that the most successful efforts of the landscape-gardening art must be founded. The best kinds of fruit, and where to place them. The kitchen-garden, orchards, and glass-houses, &c., are all arranged just as a gardener would like to have them. With an eye to necessities and conveniences, he has found a proper place for every thing, puts every thing in its proper place, and leaves a job behind him that a gardener can see fifty years hence was the work of a master mind.

A landscape-gardener requires to be architect enough to note and apply all the correct principles and all improvements in garden structures, such as glass-houses, summer-houses, bridges, entrances, &c., and surveyor enough to locate every thing on a plan by a given scale, so that every thing will appear just as it is and meant to be. He requires to be a good draughtsman, in order both to fix and to convey his ideas. Gardeners who have a taste for landscape operations may soon qualify themselves for the work. I served a long apprenticeship to gardening before I ever committed a plan to paper, and found it easy to learn when once seriously attempted; and, though I have practised landscape-gardening in this country for twelve years, I am persuaded that I have more time to spend in learning gardening than all that engineering, drawing, and the like ever cost me.

Learn to be a gardener first, and you may, perhaps, make a landscape-gardener that a person of true taste will not turn away from in disgust.

FRUIT GROWERS' SOCIETY OF EASTERN PENNSYLVANIA.

REPORT ON RASPBERRIES.

The Committee on Fruits for Philadelphia County have examined and tested the following varieties, which have been grown and fruited, with one or two exceptions, under their personal supervision.

In the course of their investigations they have heard several complaints, from skilful and experienced gardeners, of the entire destruction of the canes of certain varieties which had been carefully laid down and protected in winter; in other cases, the canes left without protection, which were alive and apparently healthy, early in April, were destroyed to the snow line, and sometimes to the ground, by the late frosts in that month. Even the robust Lawton Blackberry has, in some instances, been cut down to the ground. Complaint is also made of the withering and fall of the leaf, and consequent loss of fruit, when just ready to ripen. Sometimes the entire canes die while yet loaded with half-ripened fruit. So serious an evil, entailing an entire loss of crops for the year, deserves earnest attention. With rare exceptions, the only fertilizer used on the Raspberry is stable manure, often applied in its fresh, or only half-decomposed state. It is worthy of consideration whether the excess of nitrogenous over mineral matter, thus supplied, be not the cause of a rank succulent growth of cane, which fails to mature fully, and is consequently unable, even when covered in winter, to resist the slight frosts of spring, or the hot suns of early summer. A natural result of the failure of the ripening process in the cane is a corresponding immaturity in the roots which supply that cane with mineral food, and the end of all is the death of the plant. The increasing demand for this delicious fruit, owing partly, we think, to the great superiority in the quality of many of the late new varieties, renders the culture of the Raspberry one of importance and profit, and calls for more careful experiments in its management.

Spent tan-bark, (both as a mulch and a fertilizer,) wood ashes, and the phosphates have all been recommended as manures, and are all valuable. A very important feature in its culture is *shade*,—not the shade of overhanging trees, but that of its own foliage; almost invariably the largest, highest colored, finest flavored and most melting berries are found in the shadow of protecting leaves. Blackberries especially, when ripened in the full glare of the sun, are always small, sour, tough and seedy; while those on the same bush growing in the shade are sweet, melting, and much larger in size. An exception to this is found in the Catawissa, autumn-bearing, whose fall

crop of fruit, maturing late in August, and during all September and October, is borne on the extreme ends of the laterals, and seems to court the sun, coming, as it does, after the fervid heats of summer are past.

Many advise planting in rows running east and west, but the propriety of this method may well be doubted. If the rows run north and south, each plant shades its next northerly neighbor, and the sun rests but a short time on any one portion of the foliage. If the rows be planted at sufficient distances to allow of frequent cultivation during the season, a marked increase in the productiveness and strength of the cane results, very little manuring is requisite, and that principally of a mineral nature. In gardens they do well on the north or east side of an open lattice or pale fence, which breaks the force of the sun's rays without depriving them of its beneficial influence.

As to the hardiness of the different varieties, it would be difficult to name any sort, except the old and inferior Red cane, that, under the ordinary method of culture, will prove hardy in all soils, and under all circumstances. In some parts of our county, Brinckle's Orange, and other varieties usually esteemed tender, have withstood the last three winters without any protection; in others they have been destroyed to the ground, even when laid down and well mulched during the winter. Every thing depends upon securing well ripened wood, which will endure almost any vicissitudes of cold or heat, moisture or drought.

We would suggest that all Raspberries, and especially the softer kinds, should be gathered with their stems attached; they will carry better to market, preserve their shape and flavor longer, and can thus be eaten, as strawberries are in England, singly, holding the fruit by the stem, and dipping it into a saucer of pulverized sugar. Some high-flavored kinds, too soft for transportation, when detached from the germ, can thus be rendered available for market purposes.

RASPBERRIES.

American Varieties.

ALLEN.—A good deal of confusion and disappointment has resulted from errors in the dissemination of this plant. Mr. L. F. Allen, of Black Rock, N. Y., originally introduced to public notice, two varieties, the Allen and Red Prolific, which are entirely distinct sorts. Parties here, however, have received direct from Mr. Allen, as these two varieties, plants nearly identical in every respect, neither of which corresponded with the description given in his circular, nor with that generally grown among our nurserymen here as the Allen Raspberry. The Allen is a very strong grower, with large, dark green, crumpled foliage; canes of large size, with numerous blunt

purple spines, reddish-brown wood, laterals strong and numerous, commencing within too feet of the ground; continues in bearing for a long season. Fruit of large and uniform size, firm flesh, light crimson color, excellent flavor; clinging slightly to the receptacle in picking. In some soils it appears to need to be planted alternately with other varieties to yield a full crop; in others we have found it bearing abundantly when growing at a distance from any other sort. Alternate planting is, however, advisable.

CATAWISSA, Everbearing.—This is mainly valuable from its certain and abundant fall crops. The spring fruits, coming at a season when all the other and finer varieties are in full bearing, is comparatively of little value, although by no means of poor flavor; the autumn crop succeeds so immediately, that berries have been gathered on the same day from both the old and the new canes. The flavor of the latter depends very much upon the season; if the months of August and September prove moderately warm and dry, an excellent quality may be counted on; if cold and wet, the fruit is generally rather sour. It bears continually from about the last of August, through all September and October; we have even gathered its fruit on the 4th of November. In vigor of growth, size of cane and hardihood, it almost rivals the Lawton Blackberry. A truly valuable sort.

CUSHING.—Plant vigorous, foliage dark green and crumpled; laterals numerous and strong; young canes thickly covered with small red spines; it has not proved with us very productive. Fruit, conical, deep scarlet in color, overspread with bloom, only second rate in flavor. Sometimes bears an autumn crop.

FRENCH.—Has been disseminated by some parties as an autumn bearer, and is still advertised as such. During three years' experience we have never seen any appearance of an autumn crop. It is also described as a late variety. It has always ripened with us at the same time as the Wilder and Orange, but does not continue so long in bearing as either of these. The plant is a free grower and profuse bearer; of medium sized, round, deep red berries, rather soft and of indifferent flavor.

ORANGE, (*Brinckle's*).—Is justly regarded as the best of all the native sorts. Its large orange-colored berries, of excellent flavor; its strong growth, long season of bearing, and great productiveness, render it worthy a place in every garden. To some tastes it is too sweet, and wanting in sprightliness. Great care is requisite when cultivating and forking up the soil around the stools, not to lacerate the roots, or disturb the young plants, as this variety, especially when young, throws up suckers very sparingly, and in some soils it is difficult to get a plantation well

started. It resembles the orange tree, not only in the color of its fruit, but also in the fact that the bud, blossom, and ripe fruit are seen upon it at all stages of its growth.

WILDER.—Plant, a very strong grower, and profuse bearer; foliage dark green and crumpled; canes hirsute, being densely covered with long, tender, light brown spines; fruit round, medium sized, cream colored, soft and very juicy, but not high flavored; it decays rapidly when ripened in the sun, or exposed to rain. The pips are quite hairy, and in gathering, the anthers fall upon the fruit, giving it an unpleasant grittiness in eating.

FOREIGN VARIETIES.

BELLE DE FONTENAY.—A double bearing French variety, which has been confounded with the Marvel of the Four Seasons, from which it is quite distinct. The habit of the plant is quite dwarf, growth vigorous, suckers profuse; fruit medium to large, reddish purple, flavor rich and sprightly. A valuable sort.

CUTHBUSH'S PRINCE OF WALES.—A late English variety of high repute. It has been fruited here one season, and the berries proved of excellent quality, and large size; long conical shape, bright crimson color, and firm flesh. Worthy of further trial.

FASTOLFF.—An old English variety of well known excellence. Fruit large to very large, a reddish purple; rather soft for market. Bears abundantly, and for a long season. In some soils proves very tender.

FRANCONIA.—A favorite with many of the best market gardeners. It bears a profusion of large, dark red berries, of very rich, brisk, and sprightly flavor. Bears transportation well, and yields remunerative prices. In some locations degenerates rapidly, and runs out. Does not commend itself to the tastes of those who like a very sweet fruit.

HORNET, pronounced HORNAY.—A splendid new variety from Bagnole, near Paris, introduced here by Aubry & Souchet, of Carpenter's Landing, N. J., to whom we are also indebted for most of the French varieties below described; Imperiale, Jouet, Papier, Pilate, and Souchetii. This is the favorite Raspberry of the Paris market, and deserves to be placed at the head of all the foreign kinds. It is a very strong grower; foliage very large, dark green, not much plaited; young wood, pale green, spines small, red and scanty. Fruit of unparalleled size; obtuse conical shape, rich crimson color, and of the very highest flavor. We have measured berries of $3\frac{1}{2}$ inches in circumference. It is not quite as firm as is desirable for a market berry, but if gathered with the stems on, as is the custom in France, it is easily transported, and fetches the highest price. Worthy of universal culture. Some experienced Pomologists have supposed it to be identical with Knevett's Giant. We

find the difference very marked, as will be seen by the respective descriptions given.

HUDSON RIVER ANTWERP.—A very favorite sort in New York, and now being generally introduced here. It shares with Brinckle's Orange the reputation of being the most popular berry in cultivation. Being well known, we omit a detailed description of the plant. Its abundant crops of medium to large sized fruit, of handsome red color, and firm flesh, and its long season of bearing, entitle it to high praise, although the flavor is not first-rate, and, to some, rather insipid.

IMPERIALE.—A large French variety, of good promise; young wood, pale green, nearly white, with pale red blush, leaf dark green, long pointed, variable, sometimes smooth, at others, much crumpled. Fruit large, roundish, bright red, of firm flesh, excellent flavor. A valuable sort, said to be quite hardy.

JOUET.—Another French variety, of good quality. Young wood, bright yellowish green, very stout and short jointed, with very few and weak greenish spines; foliage very thick, dark green, deeply crimped, and reflexed. Fruit small to medium, long conical, bright lemon yellow, with a whitish bloom; pips very small, flesh firm, rather seedy, flavor sweet and delicious. Productiveness not well tested, as we have only young plants under culture. A very handsome and promising sort.

KNEVETT'S GIANT.—An English variety, introduced about 16 years ago, by the Hon. Marshall P. Wilder. A vigorous and rampant grower; young wood, light green, with reddish purple tinge, spines small, reddish and numerous. Laterals few, stout, and borne mostly near the top; suckers abundant. Fruit, which is often in pairs, roundish conical, bright red in the shade; firm flesh, sweet and excellent. Berries ripening in the sun are deep red, and much disposed to burn, and become tough, sour, and worthless.

MARVEL OF THE FOUR SEASONS.—We give the translated title as more ready of comprehension and use. One of our most esteemed amateurs values this variety so highly as to have removed all others from his very extensive garden, and substituted this in their place. Our opportunities of testing it have been limited. The young plants we have seen have borne abundant crops, spring and fall, of large size; bright red fruit, of good, though not the highest quality. It is not, as many suppose, an everbearing plant, but, like all the others, so called, only bears a spring crop on the old, and a fall crop on the new canes. Sometimes the two crops overlap, thus giving a continuous supply from June till November. It is quite distinct from the Belle de Fontenay, which is of smaller growth.

A yellow variety of this name we are now testing.

PAPIER.—An old French variety, known also as *Le Noire* or *Tue-Homme*, first introduced about 1820 at Bagnole, near Paris, the chief seat of Raspberry culture for the Paris market, and whence we have obtained all the valuable new sorts. On account of the shortness of the fruit stalk, (all Raspberries being gathered there with the stems attached,) and the softness of the fruit, it was superseded by the *Gambon*, a fine large sort, which in turn has given way to the still more improved kinds, the *Hornet*, *Imperiale*, &c. It is of good size, and excellent flavor, but has been too little grown here to warrant further notice at present.

PILATE.—We think it the highest flavored of all the French varieties. It is also of large size, and promises to bear abundantly. Foliage, dark rich green, crimped and reflexed; habit somewhat trailing. Requires another season to be fully tested.

RIVERS' NEW MONTHLY, (Large Fruited Monthly).—This much-praised variety has greatly disappointed expectations in our county. Several of our best amateurs and professional fruit growers, after fair trial, have entirely discarded it as worthless. The spring crop is sometimes abundant, but often meagre, of medium sized, scarlet berries, of a mild, sweet, but not high flavor. The autumn crops, even with the best culture, cannot be depended on; in four seasons out of five it makes a profuse bloom, which is mostly abortive, or else it fails entirely. It also throws up suckers profusely, requiring constant weeding to suppress them. Should be rejected from every good collection.

SOUCHETTIL.—A very handsome cream colored fruit, resembling in general appearance the *Orange*, but not so deep in color. Young wood yellowish green; spines greenish, very small and scanty. Fruit long, conical, medium to large in size, of a rich cream color, overspread with a white bloom; flavor rich, sprightly and sweet, surpassing that of the *Orange*. If on further trial it prove hardy and productive, of which it gives good promise, it will be well worthy of cultivation.

We would here remark that it is the general experience of market gardeners, that red Raspberries of ordinary quality, generally sell better than white ones, even of the highest flavor. Time, and the more general introduction of the finer sorts, will, no doubt remove this prejudice from the public mind.

We have now under trial, the *Salmon Berry* of Oregon, *Northumberland Fillbasket*, *Julia*, (Dr. Brinckle's,) and the *Yellow Autumn-bearing*, which we think synonymous with the *Yellow Marvel* of the Four Seasons, and which we hope to report upon next season.

J. E. MITCHELL,
ROBERT CORNELIUS,
A. W. HARRISON.

[The article we gave on Strawberries was received with such favor by the public, that we have been induced to solicit a similar favor on the Raspberry question, from the gentlemen composing the committee. It is well to repeat, that as the report has not yet been before the Fruit Growers' Society, it is at present merely the opinion of the gentlemen whose names are signed to it.—Ed.]

FRENCH RASPBERRY.

BY DR. W. D. BRINCKLE, GROVEVILLE, N. J.

The October number of the *Gardener's Monthly* contains a paper under the heading of "Perpetual Raspberries," by Mr. R. M. Conklin, Cold Spring Harbor, N. Y. In this article Mr. Conklin speaks of the "*French*" Raspberry as bearing a crop of fruit in the fall.

If this is one of my seedlings, it is the *Cushing*, and not the *French*. In propitious seasons the *Cushing* always bears an autumnal crop on the young canes of the same year's growth, and the berries are usually larger and finer than those it matures at the ordinary raspberry period on the canes of the preceding year's growth. The berry of the *Cushing* is large, of a lighter crimson than the *French*, and slightly conical in form.

The *French* is a very late variety, and throws up but few suckers, and never fruits on these till the succeeding year. It is the latest and most hardy of all my seedling raspberries. It was the result of a cross between the *Fastolf* and *Yellow Antwerp*. The seeds from the berry produced by this cross were planted, and some twenty or more of them vegetated. Being desirous of creating new varieties with a constitution sufficiently hardy to adapt them to the exigencies of our climate, I subjected these young plants to such severe treatment as to kill all of them but one. This one bore the harsh usage well. I named it the *French*, in honor of my late friend, the Hon. B. V. French, of Massachusetts. The berry of the *French* is large, round, and of a deep crimson color.

TARTARIC ACID versus WILLIAM BRIGHT.

BY DR. J. R. HAYES, WEST CHESTER, PA.

"C," in your last, tries to be a little funny over the term "*katalysis*," and endeavors to make us believe that he does not understand one or two things in my first essay. He naively asks whether argol is the *katalysis* of tartaric acid? He ought to know that argol is the crude cream of tartar and tartaric acid of commerce, deposited from grape juice in the act of fermentation. He ought to know, also, the difference between *katalysis* and *precipitation*, without feigning ignorance upon it. Nor was it necessary

for the argument for me to show why German wines are sour,—or dry, as it is called. "C" says that I do not make the matter very clear by saying, "In keeping the tartar, we lose the alcohol, and *vice versa*." He quotes, also, "alcohol of high and low density," and seems not to understand. He ought not to expect the whole chemical process of wine-making to be given in one short essay; and if he does not yet understand it, I advise him to study some work on chemistry. He will there see that alcohol of high density will not hold argol in solution, whereas alcohol of low density will hold a large quantity. He will then see that "by keeping the tartar in solution, we lose the alcohol, and *vice versa*."

If "C" cannot see this, then, indeed, is chemical reason paradoxical to him. The term katalysis is applied to the *change* produced by fermentation in the sugar, and cannot be applied to the argol, which is essential, unchanging, and invariable. German wines are sour,—either from weakness in alcohol (having been made from grape juice deficient in sugar) holding the acid in solution, or from fermentation being kept up too long, so that acetous fermentation supervened.

"C" seems to think that the quantity of argol can be increased by art. This is something that would be very interesting to Mr. Bright, I have no doubt, as I know that he is an earnest advocate for increase in everything, and possibly this was the point he aimed at when devising his compound tartaric fertilizer. It will be noticed that in my former essay, I admitted, by way of *hypothesis* only, the taking up into the plant the elements of tartaric acid in excess from fertilizers; that in that case the wine would be worse off, so that there would be no use in *trying* to increase the tartar for that reason. To speak it in plain English, fertilizers act upon the sensitive parts of the roots of plants, and thus increase their growth and vigor; but we cannot change the native characteristics of the fruit by any such means. This is claimed by Mr. Bright in his theory, and this, after all, is the *point* in the argument.

Had we absolute control of the germ growth, we might then change nature; but, not having this control, we will have to be satisfied with selection, reproduction, and hybridizing, upon which to ring the changes in the production of countless varieties which from the beginning a kind Providence has furnished us.

[In Dr. Hays' last article, "eliminated from sugar and bulk of price," should have read bulk of juice.—Ed.]

LADY FINGER STRAWBERRY.

BY C., BRIDGETON, N. J.

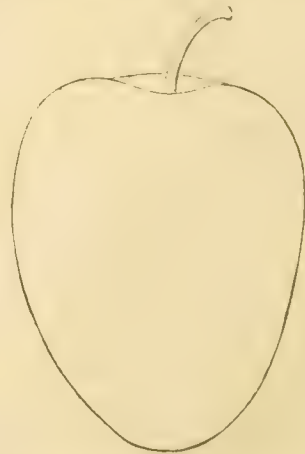
You seem to have got the "wrong pig by the ear"

in your remarks upon the Lady Finger Strawberry, in reply to Evanston question, in this month's *Gardener's Monthly*, or else the character of the berry has wonderfully changed in its transit across the Delaware. Having known it intimately almost from its birth, and at the same time not having the slightest personal interest in its reputation, I feel qualified to correct your error, which I do in justice to a friend and neighbor, the originator, whose name is not Scott but *Prosser*. As to its merits, it is considered by all growers whose opinion I have ever heard, that its *flavor* is one of the very best, certainly any thing but "flat and pasty;" the only objection we find to it in this, its native locality, is its want of sufficient productiveness for profitable market purposes; for a garden berry it is delightful, and in a more loamy soil is said to be much more prolific.

[We do not know that we ever expressed or heard an opinion of their identity before our August number appeared; yet we found the idea widely prevailing at the Pomological Society. Our Lady Finger certainly does not agree with Mr. Hovey's description of Scott's Seedling, (see Pomological report page 17), and C., seems inclined to disown it also. From all the facts, it seems that the Lady Finger is not the genuine Scott's Seedling, and that it does much better in New Jersey than in Pennsylvania.—Ed.]

New and Rare Fruits.

YOHE'S EAGLE PLUM.—By R. A. Grider, Bethlehem, Pa.—A seedling, which came up on the grounds



of Caleb Yohe, Bethlehem, Pa. It bore its first fruit in 1860. Having lost none of its fruit by curculio, it is possible it may be exempt from its ravages. If

so, it will be a great acquisition. Size, two inches long, one and one-half inches in diameter; shape, egg; suture, slightly marked on one side; basin, shallow; stalk, five-eighths of an inch; flesh, firm, of yellow color, melting, juicy, of good flavor, and very sweet; stone, small, and perfectly free; shoots, very vigorous; leaves, large, dark green, some measuring five and a half and six inches; ripens first of September; color, greenish yellow ground, with beautiful red cheeks, dotted and marbled with darker red, the whole colored with a thin white bloom; when the bloom is removed, it becomes transparent.

[In a memorandum, Mr. Grider speaks of having sent us fruit of the above; but they never came to hand. Mr. Grider, however, is reputed to be a careful and intelligent pomologist, and is well qualified to judge of its value.—Ed.]

CROCKITT'S LATE WHITE PEACH.—We have obtained from Mr. Pullen, of Hightstown, New Jersey, a fruit of the above peach, which is making "some noise" in the "kingdom" of New Jersey, and will, no doubt, be sought after by the "rest of mankind."

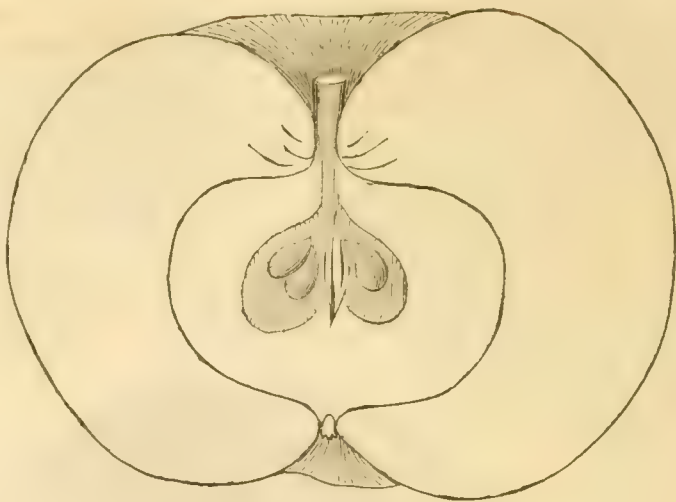


A late white variety, very productive, and valuable for preserving. Is destined to become one of the most popular of all the late white peaches for orchard-culture. Origin, New Jersey. Leaves, reniform without glands; fruit, medium to large, oblong; skin, greenish white, with occasionally some red on the sunny side; flesh pale, sweet, not very juicy. Last of September and first of October.

SEEDLESS NATIVE GRAPES.—The *Homestead* says:—"Mr. C. L. Taylor, of Terryville, brought us some grapes, in large clusters and seedless. The color is beautiful, the size small; the clusters compact and good, and will improve by cultivation; the pulp sour, but seedless; the skin thick and pulpy, of course; and the odor delicate; but, like that of the rest of the species, foxy enough. For preserves, etc., it is most excellent, on account of the lack of seeds."

EGYPTIAN BELLE APPLE.—A distinguished Western pomologist, our well-known correspondent, Mr. J. M. Smith, of Greenville, Illinois, sends us the following sketch and description:—

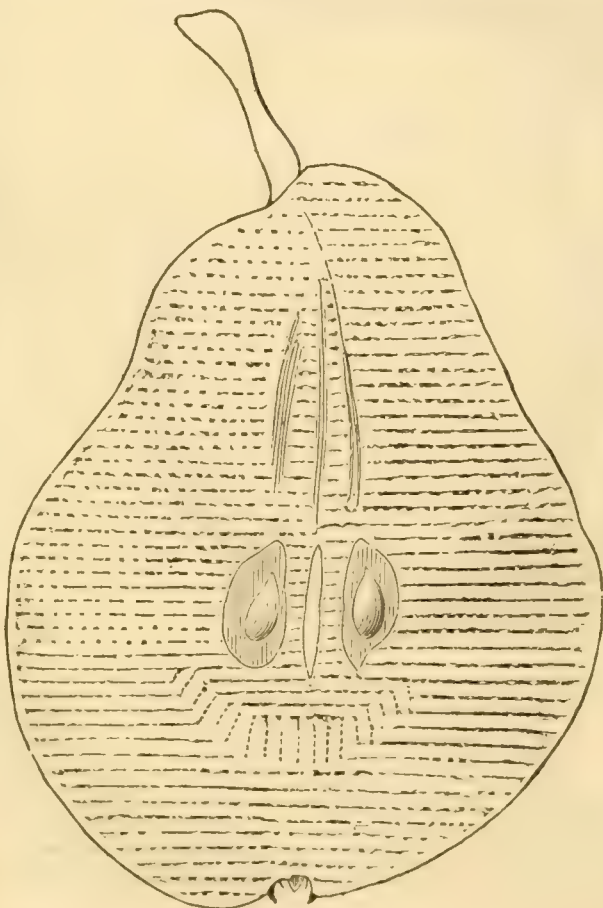
Size, large, or above medium; form, roundish, flattened; color, yellowish white, striped, stained, and splashed with brilliant light and deep carmine; stem, short; cavity, deep, regular, and russeted; calyx, very small, closed; basin, small, regular; core, large and somewhat hollow; seeds, medium, dark brown; flesh, juicy, white, fine-grained, sprightly, sub-acid; season, from middle to last of August. A sprout from the root of a root-grafted tree (a *Pennoch*) in my father's orchard.



CLAPP'S FAVORITE.—Fruit large, pyriform, rather oblique; skin, smooth, yellowish green, profusely covered with grey dots, a tinge of red on the sunny side; stalk, about one and a quarter inches, stout, inserted obliquely; calyx, closed, in a very shallow basin; flesh, juicy, with a high, vinous flavor; quality, best.

Of all the newer pears introduced at the late meeting of the Pomological Convention, this pleased us the best, and we consider it a decided acquisition.

It was raised in the garden of Nathaniel Clapp, Esq., Dorchester, Massachusetts. We are indebted to President Wilder's kindness for the specimen from which we have made our drawing and description, as we believe it has not been before described.



BLUM PLUM.—In color and shape this plum has considerable resemblance to *Nelson's Victory*, to which it appears to be allied. The following is a description: Size full medium or rather large, oval, color dull orange, with numerous small brown dots, suture distinct, stem short, cavity narrow; flesh yellowish brown, fine grained, very juicy, quality "very good."

We suppose it to be mature in North Carolina about the middle of 7th month, July—it would doubtless be some weeks later here. The variety is certainly worthy of further attention.—*Country Gentleman*.

PITTSBURG SEEDLING GRAPE, a correspondent of the *Farmer and Gardener*, says, was found nine years ago wild by Mr. J. S. Arthur, of Pittsburg. It is ripe on the 10th of August; "does not yield in excellence to the Delaware; though hardly so sweet is earlier, more sprightly and vinous, and has less pulp." The Committee on Native Fruits of the Pomological Society consider it "evidently" a seedling from a foreign stock.

EXTRA EARLY PEACH.—A Pennsylvania correspondent writes:—"Among my peaches I have one, a seedling of Fay's Early Anne, which ripens in July, twenty-two days before the Anne, and twenty-six days before Serrate Early York or Tillotson. In quality superior to either. The fruit is small but very fleshy, the pits not longer than a hazel nut."

If it retains this character permanently it should be valuable, and we should like to hear more of it another season.

Recipes for Fruits and Vegetables.

"The lady who contributes a good recipe for the public benefit, deserves as much credit as he who introduces a new fruit or vegetable"—*Good Authority*.

CIDER-MAKING WITHOUT PRESSING.—It is stated that a man at Parkersburg, Virginia, is successful in making cider by the following process: He grinds the apples, and fills casks with one end open, the bottom having some sticks and straw, like a leach-tub for ashes. On the pomace he pours as much water as it would yield juice by pressure, and that displaces the juice, and sends it to the bottom, from which after two days, it is drawn by opening the faucet, and as the cider is heavier than water, it runs off at first pure. The pomace, too, having an affinity for water, absorbs that, which displaces the natural juice, and leaves the pomace quite tasteless. This process may be useful to persons who have a few apples and no cider-presses.

PICKLING SWEET APPLES.—To half-peck of sweet apples make a syrup of two pounds sugar, and one pint of vinegar. Boil the apples in this syrup until tender; then remove them, and make a new syrup of two and a half pounds of sugar and one pint of vinegar. Add one teaspoonful of cloves, and one of cinnamon tied in a bag. Let the syrup boil fifteen or twenty minutes; then pour it, while hot, over the fruit. The first syrup is good for other sauces.

TO MAKE CIDER WINE.—Take good new cider, fresh from the press, and dissolve in it from one and a half to two pounds of sugar to the gallon. Put it in a clean cask, leaving the bung out for forty-eight hours. Then put the bung in, leaving a small vent until it has ceased or nearly ceased fermenting. Let it stand one year. The wine is then fit for use. The longer it stands the better.

TO PRESERVE PUMPKIN.—Take good, ripe pumpkins, pare, and stew as dry as possible; place in the oven on a sheet, and let it remain until thoroughly dried, not baked; then stow away in a dry place, when it will keep an indefinite length of time—only requiring to be soaked in milk a few hours before using.—*Genesee Farmer*.

PICKLING CABBAGE.—Chop it up fine; for a three gallon jar full take one tea-cup full of salt, put a layer of cabbage and a layer of salt till filled, then to one quart vinegar add one tea-cup of sugar and pour on to it. The cabbage if packed in tight as above, can be kept the whole year as good and sweet as when put up.

ACORN COFFEE.—This is one of the best substitutes for coffee, and is much used in Germany. The acorns are shelled, split, dried, and roasted like coffee. When taken out of the roaster, a little piece of butter is put over them. It may be used alone or with real coffee. Although acorns in their raw state are very astringent, yet they lose this when roasted. They are also, in some respects, to be preferred to coffee, having none of the drying properties attributed to that berry.

TO KEEP APPLES.—If apples are carefully packed in hard wood sawdust, they will keep through our coldest winters. This we have tried, and know it for a certainty. But in packing, care must be taken that none of the apples touch the barrel nor each other. We have had them open in fine order, when thus packed, long after those in the cellar were rotten or so withered as to be useless.—*Ex*.

The Gardener's Monthly.

PHILADELPHIA, NOVEMBER 1, 1860.

✉ All Communications for the Editor should be addressed "THOMAS MEEHAN, GOTTENTOWN, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

TO ADVERTISERS.

✉ Copies of Advertisements, when they occupy an entire page of this paper, will be furnished to the advertiser, printed on good paper, for private distribution, at the low price of THREE DOLLARS per thousand. *Nurserymen* will find this an economical way of getting their *Wholesale Lists and Abstract of Catalogues* printed.

RUSTIC ADORNMENTS.

[See Frontispiece.]

In some recent numbers we adverted to the want of variety and special points of interest, as one of the main causes of the lack of enjoyment so often experienced in horticultural pursuits. We desire to keep the subject prominently before our readers. No better service can be rendered than to continually point out the best sources of enjoyment the gardening art affords.

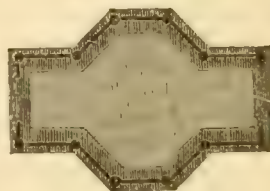
Although variety may constitute some of the happiest features in an interesting garden, there is danger of its degenerating into meanness, and a species of showy pretentiousness. Hence we frequently see great islands in small duck-ponds, classic vases in neglected wildernesses, and rich architectural structures in the midst of beggarly surroundings.

Whenever any improvement is suggested, the connecting circumstances should be searched for incongruities, which, if found to exist, will mar the boldest efforts.

Our obliging Paris correspondent has furnished us with two sketches of rustic buildings existing in the vicinity of that city, and which we have had engraved for a frontispiece. He describes their effect in connection with the large sheet of water by which they are erected, as very "grand." On a mere pond they would lose much of their interest. To use an every-day expression, they would appear "as if the owner had been trying to do something."

The upper building in the plate represents a combined boat and bath-house, the summit being crowned by a thatched kiosk or summer-house. The lower one represents a belvedere, as the French term projecting terraces, and overhanging seats. It will be observed that they are very simply constructed, and yet there is a charm of beauty about them, the uncultivated would not know how to account for. This is, in a great measure, lent them by the situation, and

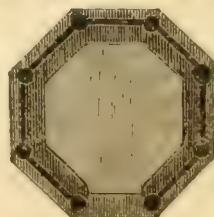
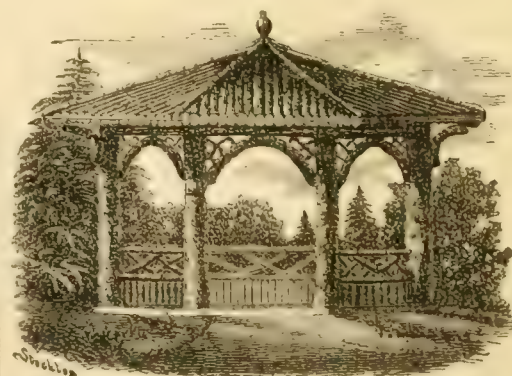
Fig. 1.



well illustrates the points we noted at our commencement.

In other situations, such simple structures would be out of character and highly objectionable. Where a spot is frequently visited, and by a number of people, great strength of structure and boldness of design is required to give tone and character to rustic buildings. In this point, the buildings in the Central Park, New York, struck us, at the time of our visit

Fig. 2.



last year, as being happy effects of a very tasteful genius.

Fig. 1 was then completed, and we have since had it and the other pretty one (Fig. 2) sketched expressly to accompany these remarks. They are constructed of red cedar, and put together in the strongest and most substantial manner.

The greatest objection to rustic work is the rapidity with which it decays in our country; as, unless the bark is left on, much of its rural effect is lost. For ourselves, we would sacrifice a little to permanency, and in the parts of such structures most important and liable to decay, would strip off the bark, and, by employing various shades of brown, and a man with some little genius for the job, paint the whole to as nearly as possible represent the natural appearance of the various woods employed. We have seen this done so effectually, that very few persons ever suspected the presence of paint, without a very close inspection.

THE POMOLOGICAL REPORT.

In another column appears a correcting note from Mr. Bateham. Reports of such societies are never accurate, from causes which we need not here enumerate. We wished to send proofs to each speaker for his own special revision, before publication; but, finding that it would delay its appearance many weeks, we concluded to publish it at once, and make any slight corrections there might be necessary afterwards. It is, of course, our desire to have the record as accurate as possible, and we shall be obliged by our friends noting any alterations they may wish to see made.

We notice ourselves that Mr. "Barry" is made to speak of the Allen Raspberry, instead of Mr. Parry. In Gooseberries, "Martin's" Seedling should be *Mountain*. What is said of the "Diana" Grape belongs to the *Anna*. For "Barnsley" Apple, read *Princely*.

Since writing the above, we have received corrections from Mr. Mitchell, Mr. Berckmans, Mr. Rutter, and Mr. W. C. Strong. There may yet be a few others, which we shall gladly receive, and give the whole corrections in one chapter next month. We are glad to find, by the remarks of these gentlemen, that the errors are not, in most cases, the fault of our reporter, but of the noise and confusion, of which all complained. This was at one time so great, that the meeting had to adjourn to another room up stairs. Many of the errors so far pointed out are in passages altogether omitted in Mr. Vick's report, showing that the difficulty of catching them right induced that gentleman not to attempt the risk of failures. In other instances, Mr. Vick's report and ours agree in the main, showing that whatever the speakers may have

said, the sound reached the ears of the reporters alike. For instance, of the Emily Grape Mr. Vick reports: "MITCHELL.—In justice to Mr. Raabe, it should be stated that he has another grape somewhat resembling this, and the two have in some way become confounded. One is much better than the other." Which it will be seen is substantially the same as in our report. But Mr. Mitchell sends us the following as being what he did say:—

"EMILY—MR. M.—In justice to Mr. Raabe, it should be stated that there is a *true* Emily Grape, of most excellent quality. I have grown it, but found it did not ripen its wood well, although it is an excellent grape of a copper color, and a good bearer."

FINE EUROPEAN SILVER FIRS.

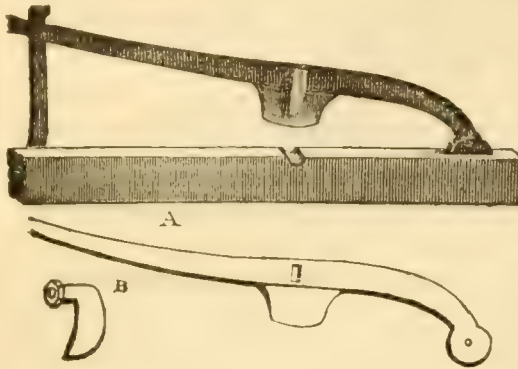
In his "Landscape-gardening," Mr. Downing refers to the "handsome Balsam, or Balm of Gilead Firs, some of which, though planted twenty-two years ago,—1838, we believe,—are now higher than the mansion" on the grounds of the late George Sheaff, Esq., at White Marsh, in Montgomery County, Pa. On a recent visit to this beautiful spot, we noted that Mr. Downing was mistaken in the identity of the trees. They are Silver Firs of great beauty. We made a rough calculation of the height of one of them, which is accurate within a foot or so, and found it to be seventy-eight feet. This, in less than thirty years, is not a mean growth for a tree with a slow reputation. The specimens we allude to have their tops shown through the branches of the oak in the plate in Mr. Downing's work, (page 42 Sargent's edition,) which oak, by the way, is not represented as beautifully as it actually is, through a desire to show more of the building.

Most of our old places, that have been famous in the annals of landscape-gardening, are falling into decay. The Camac property, the pretty mansion of which is engraved on the same page with this of Mr. Sheaff's, is now a lager-beer garden and saloon. Amidst all this wreck of ancient points of interest, it is gratifying to say that Mr. Sheaff's place, in the hands of his descendants, notwithstanding its age, exhibits all the beauty and freshness of youth. Every thing is neat, tasteful, and elegant,—novelties in the way of trees, plants, and fruits are continually being secured; every improvement worthy of adoption is added as it appears; and no sign of ruin is suffered to exist amidst the grandeur which surrounding age affords.

Should we be permitted to return to this world after once leaving it, we should desire no greater gratification than to find our posterity so religiously preserving the things we loved in the charming manner those are that we saw here.

ROBEY'S ROOT-GRAFTING MACHINE.

At the Pomological Meeting in Philadelphia, Mr. Robey exhibited a machine different from others that we have seen, and possessing merits. The following is a cut.



The representation speaks for itself. The root is set in the groove in the block, A, and on the handle being pressed down, the chisel above cuts off the root, while by another chisel set on the edge (B shows the chisel taken out of the handle or lever), a slit is made in the stock at right-angles with the other slit at the same operation.

PRESERVATION OF LARGE FLOWER-POTS.

Flower-pots, especially large ones, form a heavy item in gardening expenses. Very large ones are more likely to be broken than small ones, not merely by the weight of soil they contain, and the greater force of a slight concussion, but by the vital force of the roots, which is much greater, and breaks more pots than many would think probable. Nothing will withstand this force. A mushroom has been known to lift a flag-stone of twenty pounds weight three inches in one night,—and walls are often thrown down, and pavements thrown up, by roots of trees in the accumulated and persevering power of years. Pots in orchard-house trees are particularly liable to suffer in this way, and are well worth banding with iron hoops.



The cut represents a pot so "fixed," which we recently saw at a Horticultural Exhibition. Holes are easily drilled through the pots, and rivets applied as represented. Of course, the hoop can be painted any color to suit the taste of the owner.

Questions and Answers.

TROUBLES OF LUXURIOUS GROWTH—J., Geneseo, Illinois, writes:

"The fertility of the soil in this part of your parish is such as to cause a very vigorous growth of most classes of plants. But for some things, this is not desirable. Grapes—one-eye cuttings, planted twelve to the square-foot last May, have grown from six to nine feet. Roses—Augusta Mie and Pius IX., I have trained up twelve and fifteen feet from the ground this season. And most kinds of perpetuals send up branches five to eight feet high, without pruning or training. Now, such growths are hard to winter,—that's one trouble. But there is another, a grievous 'evil under the sun' of this Prairie State; one that I have not seen alluded to either by Solomon, Downing, or Meehan. My roses don't bloom. I have forty kinds of choice H. Perpetuals, and one hundred and fifty plants in all, well-grown bushes, mostly young, all healthy. Twenty plants, of five varieties, only have shown flower-buds this season; only one of them had as many as five buds.

"Giant of Battles I have from four years old down to one, some growing undisturbed, some trained up, some down, root-pruned, limed, boned, with and without barn-manure; but I have not seen a single flower on a Giant in this State, except some budded on a Dog Rose.

"Last year I removed the soil three feet deep on a border ten by eighteen feet, and filled in with earth taken six feet below the surface. Giant of Battles, planted there, grew as rank as any; bloom, none. I have put my shoulder to the wheel before calling on Hercules. Now I need help, and apply to you with some confidence. (1.)

"Can Giant of Battles be distinguished from Manetti, except by their flowers? They grow and look just alike to me. I am budding Giants on Manetti's, but doubt if they do much better. I have one budded last season on that stock; it does not bloom yet. Can they see a difference in the stocks which I cannot? (2.)

"I have seen *Dicentra spectabilis* only here, and for the last three years. They soon grow two or three feet high, bunches five or six feet around. I have a number of great bunches, but have never seen flowers on all at once. Occasionally all summer may be seen a stray string of two or three hearts, very

handsome, but scarcely enough to pay for garden room. Will they not do better than this?" (3.)

[1. In an editorial last month we explained how a luxuriant growth was opposed to a flowering or fruitful habit. You must check this exuberant growth. Root-prune your roses while growing, by thrusting a spade deeply all around them. Pinch back with the finger and thumb any strong-growing shoots as they go, and hide your pruning-knife where you may be sure not to find it again, and, our word for it, your roses will bloom. Budding on the Manetti is more likely to aggravate your complaint.

2. We cannot describe the difference with sufficient brevity; but one season's close observation of a Manetti would enable you readily to detect it wherever present.

3. What we have said above applies to this. Plant it on a rise, where it will be likely to be "starved" occasionally, and a little for want of water. You will overcome its obstinacy.

INSECTS.—A gentleman from Newburg, N. Y., handed us some larvæ that had been engendered, as we understood him, in some nauseous compound that had been especially mixed for the *destruction of insect life*.

Miss Morris, the entomologist, favors us with the following account of them. It would be interesting to know of what materials the mixture was composed:

"The curious larvæ left for me are of the order Diptera, family Syrphidæ, genus *Helophilus*-tenax, familiarly called rat-tails. They inhabit stagnant pools and muddy waters; but transform in the earth. As they live a considerable distance from the surface of the water, they are furnished with the tail-like appendage, which is tubular, and is their organ of respiration."

RED SPIDER ON PEAR TREES, &c.—"One Subscriber," *Fitchburg, Mass.*, says:—

"Last spring I planted in my garden a large number of Delaware and Diana Grape root-grafts, but not more than one-fifth part of them have lived. The buds all started just a little, and some of them grew perhaps an inch, and then died. I used pieces of Isabella roots from six to eighteen inches in length. Part of them were cleft-grafted, and part spliced, according to the size of the roots. Can you tell me why they did not succeed any better? They were kept shaded by boards after setting out. (1.)

I also wish to inquire which is the best method of destroying the red spider in the open air. I have recently found some of them on a small lot of pear trees, which were purchased a year since from a nursery near Boston. (2.)

Is there any danger of introducing the *Haltica chalybea* into the localities where it is as yet unknown, by obtaining grape-vines or cuttings from infested places? Is there danger of getting the vine thrips or any other insects in the same manner? (3.)

Allow me to trouble you with one more question. Does the Cornelius' Propagating-pot require to be placed in a bottom-heat? and ought hard cuttings to be calloused before being placed in it? (4.)

Answers to the above will greatly oblige at least
ONE SUBSCRIBER."

[1. The scions were probably defective; obtained, perhaps, from mildewed shoots.

2. When trees are very large, it is no easy matter to destroy the red spider. On smaller trees, syringe with water heated to 130° or 140°; and if sulphur be mixed with the water before syringing, we have no doubt it would add to its efficacy.

3. There is always a risk of these things. The remedy is to watch for their first appearance.

4. A cutting will callous without heat, but not root well till heat is applied.]

HARDINESS OF CONIFERA.—P., *Cincinnati*, says: "I should be much obliged if you would give a list of all the half-hardy conifera, with the degree of cold, as precise as possible, as they may have been ascertained to stand without injury. This would place the question of what and where to plant on a basis which 'he who runs may read.'"

[Our correspondent falls into an error which is by no means an uncommon one, but which we have long labored to combat, namely, that it is a certain degree of cold that destroys half-hardy plants. Mere cold by itself has very little to do with it. A point of the thermometer that would be death to a deciduous tree in Europe would not injure it here; while, on the other hand, an evergreen that would be killed by 20° here, would escape unharmed there. The temperature of many parts of Italy and France falls occasionally below zero, and yet the Orange and Olive live under it unprotected, though not to the perfection they do in more temperate localities. In Philadelphia, 10° of frost kills them. In Philadelphia, on Green Street particularly, Hydrangeas, *Eunonymus japonica*, etc., live uninjured on the north aspect of the street; while on the south and warmest side, they will not succeed at all. Our opinion is, that the hygrometric condition of the atmosphere has as much to do with hardiness as mere temperature, and so no such rule as our correspondent asks for can be established.]

DWARF PEARS.—A lady correspondent, from Prospect Hill, La., writes:—

"May I hope for advice from you in regard to

dwarf pear trees, which my husband imported from France some two years and a half since. They were fine, vigorous trees, apparently full of vitality, and the ground was carefully prepared and supplied with suitable manures before planting; but, through the ignorance of our gardener, they were not properly set. The quince stock of most of them is several inches above the ground. They have grown very well, and have borne a small quantity of fruit; but it is plain that they must soon begin to droop, as the pear stock has greatly out-grown the quince. Should they be taken up and re-set properly this fall, or must we lose them altogether? Any advice upon the subject will be thankfully received.

Our place is seventy miles north of New Orleans, in a section of country which has recently been opened to the public by means of the Jackson Railroad. Fruit-growing has attracted but very little attention here, (and I may say in the South,) until within a few years past, and at present is a mere experiment.

Nearly the whole country is covered with a thick growth of magnificent Yellow Pine trees, and is sufficiently elevated for all fruit-growing purposes.

Our orchard consists of about twenty acres, and has been cleared of the original growth of pine three years. We have succeeded in producing some of the finest varieties of peach and nectarine, and the apple and pear trees are looking well. The grape will probably do well; but our vines are too young yet to determine what success we may expect with them.

Any suggestions which you may throw out to us in this far-off region will be very acceptable."

[It is important to have the quince stock set below the surface; but half an inch will do. The moisture of the soil aids the quince stock to swell with the growth of the pear, which, laying aside other good reasons, renders it a wholesome practice. If the quince stock is very long, cut off some of the lower portion before re-setting in the soil; if many of the roots are sacrificed by the operation, cut off some of the branches of the tree, so that less moisture will be demanded of the remaining roots. It will not materially check the present growth of the trees to take up and re-set. As they come into bearing, have a care lest they over-bear at first, which course injures so many dwarf pears.]

CHENANGO STRAWBERRY APPLE—Wm. Collins, Smyrna, Chenango Co., N. Y.—I send you by express six specimens of apples of the variety known here as the Chenango Strawberry. It originated in this county, and, as far as I can learn, is not very widely disseminated. You will not have an opportunity to taste them in perfection, as they are much better when allowed to ripen on the tree. The tree is a

vigorous grower and a young great bearer. You may have the same apple; but if you have, no harm will be done.

[The specimens were superb in appearance, and in quality delicious. But we are unable to detect any material difference between it and the Minister. If it is not the same, it would readily pass for it without much questioning.]

MAGNIFICENT PEARS.—By the kindness of Messrs. Ellwanger & Barry, of Rochester, N. Y., we have before us a basket of the finest pears. It is no wonder that pear-growing is becoming a mania when those who have the trees to sell can exhibit such superb results from them.

SKETCHES OF AMERICAN BOTANISTS.—W. says: "The short Sketches of Distinguished Botanists you are giving us monthly, we read with much interest. Biographical sketches of great men always afford pleasure; and, as botany is so intimately connected with horticulture, you might, perhaps, be induced to extend the notices, so as in time to embrace all our botanical celebrities."

[The sketches alluded to are not from the pen of the editor, but contributed by a correspondent. We should be pleased if friends in other sections would act on W.'s hint, and send us notices of those with the materials to whose histories they may have access to.]

PERSONAL.—One of our correspondents sends us an excellent article, with the main points in which we entirely agree. It was, however, marred, in our estimation, by an imputation that his opponent was "endeavoring to impose on the credulity of the people;" was something of "a quack," and so on. We are willing to let any man's theory, his practice, or his general teachings come under the severest criticisms, without any favor other than what their own merits, or the ability of its advocates may earn for it; but whether this man is "a humbug," or that man "a fool," are questions we would rather not have discussed in our journal. On reflection, we are sure our correspondent will agree with this, and thank us for cutting out the paragraph in question.

APPLES—From B., Beverly, N. J.—They are not recognized. Failing to identify them, we handed them to some of the chief apple men at the Pomological Society, without any better success. They are probably seedlings.

E. S.—We do not recognize the apple sent,

WATERMELON MOLASSES.—“*An Experimentor*,” Cinnaminson, Burlington Co., N. J., says:—

“Seeing an account in the last number of the *Gardener's Monthly*, of a man who says he made \$446 by converting the fruit of an acre of watermelons into molasses, I send my experience for comparison.

“By following his directions, good, clean, and clear molasses can be and was made. Nine quarts of juice from three medium-sized melons made one pint and a quarter (a little less than one-fourteenth) of molasses.

“Our watermelon-patch, of nearly three acres, averaged about one thousand to the acre. Allowing three quarts of juice as the average quantity, we would have three thousand quarts, which, boiled down to one-fourteenth, would be fifty-four gallons, the quantity of molasses. This, at seventy cents, would be but \$37.80, instead of \$446.

“We can get much more for our crop by selling the fruit, and I think the molasses will scarcely pay the expenses of the boiler, the wood burnt, and the time consumed.

“If any one else has met with better success, I should be pleased to learn their opinions through the columns of the *Monthly*.”

[The saccharine matter in the watermelon will vary with the soil and the season; but the discrepancy between the figures quoted is too great to be thus accounted for. We clip the following from a recent number of the *Toledo Blade*, which shows a result about similar to our correspondent's:—

“D. H. Nye exhibited some very fine syrup made by him from the juice of watermelons. He stated that he made a pint of syrup from three ordinary sized melons, after the recipe published in a recent number of the *Gardener's Monthly*.”

We hope others will report their experiments.]

ELEAGNUS PARVIFOLIA AND AMERICAN WEEPING WILLOW.—By *An Old Propagator*.

Not being satisfied with your answer in regard to the *Eleagnus reflexus* and *parviflora*, I should like you to name the botanists who do “agree that they are the same.” Likewise, you say that the “New American Weeping Willow is the *purpurea* grafted high.” Now, Mr. Loudon tells us that the *purpurea* is a native of England, and therefore you cannot be correct. I should like to know whether you or Mr. Loudon is correct.

[Notwithstanding the querulous style of the above, we are disposed to treat it respectfully, out of due regard to the professed senility of the author.

There is no such plant as *Eleagnus* “*parviflora*.” *E. parvifolia* is the same as *E. reflexa*. Our “old correspondent can satisfy himself on this point by consulting De Candolle's *Prodromus*, article *Eleag-*

naceæ, where he will also find the list of “botanists who do agree.” If our ancient friend is not yet “satisfied,” we hope he will write to the parties themselves.

The “New American Weeping Willow,” grown in this section, is *Salix purpurea*, an English plant, grafted on *Salix Russelliana*, also another English plant. Sometimes the *Salix rosmarinifolia* grafted on *Salix alba*, also two English species, together pass for the same thing. We suppose the idea of grafting them so as to form a pendulous habit, originated here, and hence the name; and our correspondent's error originates in mistaking an American practice for an American species.

NAMES OF PLANTS—N. W., *Morristania*, N. Y.—*Arenaria stricta*, now called *A. Michauxii*. It is very closely allied to the new lawn *Spergula*, and may answer our climate even better.

Books, Catalogues, &c.

Catalogue of the Flowering Plants and Ferns of New-Castle County, Delaware. By Edward Tatnall. Published by the Wilmington Institute.

One great drawback to botanical studies is the vastness of the subject. Few minds like to wrestle with an object, feeling they may never conquer it. Taught from infancy that “what is worth doing at all, is worth doing well,” it seems quite heroic for one to commence the study with the hope of mastering it. Botany is becoming an idea of such gigantic proportions that the longest life of the most congenial intellect fails to grasp it. De Candolle, a celebrated French botanist, commenced many years ago to write a “*Prodromus*,” or detailed account of all the plants ever discovered. He has as yet done little more than enter the threshold of his task, though many volumes have been published, and yet the numbers first written have already lost so much of their value by new discoveries, that the scheme is about to be abandoned.

There is little pleasure in doing anything unless we “do it well;” but we must not let the axiom deceive us—we can ascertain what portion of a study comes within the scope of our attainments, and that portion we may do well. As encyclopedias of plants thus grow more cumbersome and unavailing, local lists and *Flora's* increase in value, and do more than is readily imagined to increase botanical tastes.

No amount of book learning will make any one a good botanist; he must examine the archives of nature herself, still bearing in mind not to attempt more than his leisure will permit of being “well” accomplished. A young botanist should first confine himself or herself—for botany is particularly a science

for the lady—to a township or even smaller district. After thoroughly exploring it, and becoming acquainted with the name and history of all its vegetable productions, a county or even a state may be taken up, as time and money will permit.

These local lists are just the thing for such beginners. Dr. Barton's "Flora of twenty miles round Philadelphia," and Dr. Darlington's "*Flora Cestrica*," are in reality the sources to which we have to trace the great number of botanists for which these localities have become famous, and Mr. Tatnall's list will, we have no doubt, do as much for his part of Delaware.

There are no descriptions to the plants named, the works of Drs. Chapman and Gray being referred to for them; but there are numerous notes in the margin giving much novel and interesting information. Thus, under the head of *Taraxacum dens-leonis*—the "Dandelion." It is said, "Miss Morris, of Germantown, has noticed that after flowering, the head drops and lies flat on the ground; but when the fruit matures, it rises and again becomes erect." We do not think this beautiful provision of nature for permitting the seed to blow readily away has been before noted by any one.

Under the head of *Platanus occidentalis*, the Buttonwood, or American Sycamore, the well-known disease is accounted for by the observation of "a citizen of Wilmington, that a small caterpillar perforates the dilated base of the petiole, and destroys the young bud which it encloses;" an explanation we are inclined to think highly probable after seeing nearly the same effect from the operations of the Blue-grape Beetle in grapes the past spring.

With regard to the plants of Newcastle county itself, Mr. Tatnall claims for it some very rare ones; one of them—*Sagittaria spongiosa*, of Engelman, has not been found before in the States, and is only described in Dr. Torrey's report of the Botany of the Mexican boundary.

The House and Garden. A monthly magazine of sixteen octavo pages, published by Thomas Brown, of the *Ohio Farmer*, is on our table. The scope and design of the project is excellent, and we wish it every success.

The Horse and its Diseases. By Robert Jennings, published by John E. Potter, Philadelphia, is on our table and is an illustrated work embracing the whole management of horses, and will be a valuable addition to the library of any one who may own a horse.

RENEWAL SYSTEM OF TRAINING THE GRAPE VINE.
By W. Martin, Sr., Pittsburgh.

We briefly alluded to this little pamphlet in our

last, and on a closer examination find it to amply repay perusal. It is very modestly written, and yet bears on every page the impression of a thoroughly practical, hand—very well acquainted with his subject. The following extract will give an idea of the mode Mr. M. recommends:

"Let all the young shoots that start up the first year, grow until about the middle of May; then select two of the strongest for leading shoots, pinching off all the others with the *fingers*. Let the two selected run up on the frame-work as far as they will go the first summer, pinching off all lateral shoots and tendrils from said branches, as they make their appearance. If the vine puts out but weakly shoots the first year, cut them back to two or three eyes; then treat them the second year as aforesaid: but should they put out shoots the first year from six to eight feet long, and of a good thickness, as soon as the leaves drop off and the young wood is perfectly ripe, cut them back to about four feet; then lay them down, one branch each way, horizontally, along the lower spar of the vinery, or frame. Then each eye will put out a young shoot or branch the following summer. These must be thinned out, so that they will stand eighteen inches apart. Let the two eyes, on *each end*, both grow so as to form a branch on each end, to be laid down horizontally, to extend the leading branches already laid down, three or four feet—to put out more upright branches next year.

The second year's training must commence with those shoots that have been trained up the frame. As soon as the wood is ripe, every alternate branch must be cut off about one inch from the horizontal branch. A young branch will start from where each branch was cut off, which must be trained up and treated in the manner already described. The other branches must be cut back to within three feet of the horizontal or leading branch. These three feet, so left, will carry a few bunches of fruit; also, a young shoot from the point where it was cut back, which must be trained up along with the other young branches, and all must be treated in the same manner, viz: pinching off all lateral shoots and tendrils as they appear."

Mr. M. proceeds with each year's treatment in detail, and illustrates his practice by cuts, which make the operation clear.

In the present rage for all that can be written on the vine, this unpretending little work ought by no means to pass unread by parties interested.

Circular of the Homer (N. Y.) Rural Improvement Association, with the Constitution, &c.

A society for improving and beautifying their village, by the establishment of a public park, planting trees, &c. What an admirable idea! The projectors

deserve to be held in everlasting remembrance for their public spirit. The following are the names of the officers: President, Paris Barber; Vice Presidents, C. H. Wheadon, George Murray; Corresponding Secretary, C. O. Newton; Recording Secretary, C. Green; Treasurer, William T. Hicok; Executive Committee, A. W. Kingsbury, Oliver Glover, D. D. R. Ormsby, A. L. Chamberlain, S. Babcock, Wm. H. Burnham, J. W. Stone, C. M. Clark, C. Woodward, P. C. Kingsbury, Mrs. C. O. Newton, Mrs. Enos Stimson, Miss Mary W. Keep, Miss M. Schermerhorn, Miss M. J. Coye, Mrs. J. W. Stone, Mrs. E. N. Johnson, Miss H. S. Gunn, Miss A. Thompson, Miss M. L. Barber.

GENERAL CATALOGUES.

O. T. HOBBS, Randolph, Pa. New and rare fruits.
JAMES EDGERTON, Barnesville, O. A carefully gotten up, and useful catalogue.

B. L. RYDER, Loudon, Pa. Amongst the apples, we note some of the newer kinds that are becoming popular.

CHARLES DAVIS, Phillipsburg, N. J. Grapes and fruits generally.

FLEMING & NELSON, Augusta, Ga. Fruits, &c.

H. A. DREER, Philada. Bulbs.

J. L. DARLINGTON & Co., West Chester, Pa.

A. W. CORSON, Plymouth Meeting, Pa.

S. S. THOMPSON, Pennsgrove, N. J. Fruits, Trees and Shrubs.

GEORGE W. CAMPBELL, Delaware, O. Grapes.

DR. C. W. GRANT, Iowa, N. Y. Grapes.

JOHN MURDOCK, JR., Pittsburg, Pa.

W. BRIGHT, Rising Sun, Pa. Foreign Grapes.

W. P. SHEPPARD, New York. Horticultural Miscellanies.

R. BUIST, Philada. Flowering Bulbous Roots.

WHOLESALE CATALOGUES.

ENSIGN & FORD, Toledo, O. Colored Plates, embraces not only fruits, but trees and flowers; also, list of nursery stock.

A. FRIEPPER, Cincinnati, O. Fruit trees, including grapes by the thousand.

E. Y. TEAS, Richmond, Ind. Trees, Plants and flowers.

WILLIAMS, RAMSDEN & Co., Dansville, N. Y.

W. REID, Elizabethtown, N. J. The list of rare Evergreens is particularly full.

ELISHA MOODY & SON, Lockport, N. Y.

S. MOULSON, Rochester, N. Y.

E. C. FROST, Havana, N. Y.

PARSONS & Co., Flushing, N. Y. We notice many rare things, offered in quantity, for the first time.

New or Rare Plants.

PHILODENDRON PERTUOSUM.—At the late Exhibition of the Pomological Society, few things attracted more attention than this very remarkable plant, exhibited in fruit by Mr. James Pollock, gardener to James Dundas, Esq., of Philadelphia.



Our cut gives no further idea of it than the mere shape and form of the leaf and fruit. The actual size of the leaf was thirty inches long and twenty-six inches wide, jagged and pertused as the cut represents, and with a thick metallic texture, of the most vivid green imaginable. The fruit is borne in clusters of from six to eight. The one we figure is twelve inches long by three inches thick, and of a green color, turning when quite ripe to a dirty white. The small figure at the base represents the actual size of the little carpels that form the fruit, and which are fleshy as in the mulberry.

There is nothing inviting in the appearance of the fruit. One would as soon think of taking up a green pine cone to eat, as one of them; but under that rugged and coarse exterior lies the most delicious juice we ever tasted,—and if the ancient gods and goddesses had only been ascertained to have lived in the West Indies, we should not hesitate to decide positively, that the nectar they indulged in was obtained from this fruit.

We have often heard West Indian travellers speak

of the delicious drink prepared from this fruit; but we know of no work wherein any allusion is made to it; and Mr. Pollock will please accept our best thanks for this, the first opportunity we have had of personally tasting it.

It is a plant of easy cultivation. Where a moist temperature of 60° or 70° can be steadily maintained for it, and, whether in foliage only or in fruit, constitutes a very striking ornament.

It belongs to the *Araeas* order of the vegetable kingdom of which the common *Calla Ethiopica* of gardens affords a familiar type.

NEW PLANTS AT BOSTON.—A friend says in a private letter: *Panicum sulcatum* is a finer grass even than I judged it to be. It makes leaves about one and a half inches broad. Hovey has one this season, the leaves being very near, perhaps quite, three inches broad.

Hovey has a very beautiful fern in the exhibition, under the name of *Pteris tricolor*. It is one of the most beautiful ferns I have seen anywhere. Another very beautiful one exhibited by Evers & Comley, of Brighton, is *Micropteris elegans*. The fronds are very minutely and very beautifully cut. This one will be hard to beat. The show of fruits here, is, as usual, very large and fine. The floral department good; but the pot plants meagre in number and size.

CYRTODEIRA CUPREATA.—Is a name recently given to a very pretty plant, beginning to be well known amongst us as *Tapina splendens*. It has before been called *Achimenes Cupreata*. A new variety, with greener leaves than our well known kind, has recently been introduced.

ROSA SERICEA.—An entirely new species, from the Mountains of Asia, having a general resemblance to the Sweet Brier. It has a much more aromatic odor than the common Sweet Brier, and as it has proved hardy in England, will doubtless soon become popular.

INORA JUCUNDA.—Is a a new white flowering kind, with heads as large as *I. Crocata*, recently introduced into England from Ceylon.

PENTAPTERYGIIUM RUGOSUM.—A species of Huckleberry from the Himalaya mountains. The flowers are about the size and shape of our *Andromeda Mariana*, but are lined and colored with scarlet and white, and have a pretty effect. It will prove nearly or quite hardy here.

CALADIUM NEUMANNII.—One of the new variegated leaved plants of great beauty, is figured in the last number of the *Botanical Magazine*. Mr. Buist has already had it on exhibition here.

EMBOTHRIUM COCCINEUM.—One of the most strikingly handsome of shrubs that have recently been

introduced to British gardens is *Embothrium coccineum*.

It is a most abundant flowering plant, bearing large tufts of its bright scarlet blossoms, and producing a charming effect in the parterre or front of a shrubbery border. It is quite hardy in the milder parts of England, and at most requires a slight protection in the winter months. Its native country is South America, where it had been met with and described by Banks, Solander, and Forster, during the voyages of Cook, and since that time by King and others, over a tract of country extending from Port Famine, the Straights of Magellan, to Chiloe and almost to Valdivia on the western side of the Southern continent.

It is very nearly allied, botanically, to the *Toplea speciosissima*, one of the handsomest plants in existence, but like all the Proteaceous section, very hard to grow. This is one of the very few American species of a large Australian tribe of plants, and may therefore do better with us. In the Southern States, where it will doubtless prove hardy, it will be very desirable, and no doubt will afford great attraction for Northern greenhouses. Our enterprising nurserymen, will no doubt soon have it imported.

NEW FERN—*Pteris quadriaurita*.—One of the most recent, and a very handsome one. There are two varieties, one with a broad silvery band along the centre of the pinnae, each of which is tipped with green; and the other, which is by far the most beautiful, has a broad band of lively pink or rose colour, with each of the pinnae, or small leaflets, tipped with brown or purple. It is a tropical species, and is very variable in habit and size, growing in some cases but six inches high, and others with the fronds as much as three feet in length.—*London Gardener's Weekly*.

CAMELLIA, COUNTESS OF DERBY.—A variety of Italian origin and of first-rate qualities introduced recently into England. The flowers measure about four inches across, double, the outer petals somewhat reflexed; white, distantly flaked with clear, light rosy-pink, and not over-crowded.

CALLIANDRA HEMATOCEPHALA.—The *Botanical Magazine* says:—

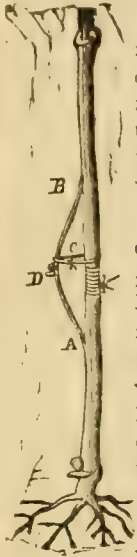
“During the month of February last, another new and most beautiful stove-plant—a shrub named *Calliandra hematocephala*—also blossomed for the first time. Its native country appears to be unknown, but it was sent from the Botanical Garden of the Mauritius to Kew in 1857. The flowers resemble those of an *Inga*, being like a somewhat globose brush, of a bright red color, and from two to three inches across. Its leaves are copiously petiolated, bearing on each from seven to ten pairs of opposite narrow leaflets.”

Communications.

GRAFTING THE VINE.

BY R. CORNELIUS, ESQ.

[In our report of the Pomological Society we promised to give Mr. Cornelius' theory a clearer elucidation. The following, from Mr. Cornelius' own pen, will be more interesting than what we could say.—Ed.]



After the first four or five leaves are formed, and the sap is flowing, you choose the place on the vine where you intend to graft. At that point wrap tightly a twine several times around the vine. This will, in a measure, prevent the return sap.

Below the ligature make a sloping cut down, as shown at A, also a similar reversed one above the ligature, as at B, about one inch in length. In selecting a scion, prefer one that has naturally a bend. Cut it so that it shall be wedge-shape at both ends, and a little longer than the distance between the cuts in the vine at A and B. Insert the scion, taking care to have the barks in direct contact, securing it with a string C, bound around both scion and vine sufficiently tight to force the scion ends into their places. If the work is done well, no tie will be required at A and B; but the joints must be covered with grafting-wax. In a short time the bud at D will commence its growth, after which you can by degrees remove all the growing shoots not belonging to the scion, and in the course of the summer you may cut off the wood above B, and in the fall remove all above A on the stock and C on the scion.

Domestic Intelligence.

A FINE FRUIT FARM.—Rev. J. Knox, of Pittsburg, has 100 acres under fruit culture, which has been a marvel of productiveness and profit. Fifty acres are devoted in strawberries, ten in raspberries, ten in blackberries, seventeen in peaches, ten in apples, and three in very select varieties of the grape, chiefly the Concord, Delaware and Diana, raised for fruit, for wine-making, and for sale of cuttings.

The strawberries are all set in perfectly straight

and equidistant rows. The ground is frequently and abundantly enriched after the most approved treatment. The soil is often, and very thoroughly stirred by suitable cultivators, by the hoe, and otherwise, and then gone over at regular intervals and throughout the year, by hand. Every weed is rooted out, every plant examined, and every thing removed which might prove noxious, or added which might prove beneficial to the plants health, thriftiness and productiveness.

For this elaborate culture a very large force is requisite, and in spring-time, when every attention tells directly on the fruit, *over one hundred persons are employed on the grounds at one time.*

The strawberry plantations are divided into *specimen, fruiting and propagating beds.* In the specimen bed there is grown a single row of all the best reputed stock varieties of strawberries known—over a hundred—and each kept perfectly distinct by the constant removal of runners. The propagation beds are for the production of new plants by their parent plants being allowed to make runners and strike out roots. The fruit beds are, as mentioned above, planted and cultivated in rows, no runner being allowed to extend or root itself.

One acre thus cultivated will produce *more than five treated in the ordinary way; and all judicious labor spent on the strawberry will pay at least one hundred per cent.*

There are about twenty-five varieties, which, for fruit, Mr. Knox says he could not get along without, although from three to six kinds will furnish sufficient variety for such as cultivate for family use: British Queen, Buist's prize, Boston Pine, Brighton Pine, Baltimore Scarlet, Burr's New Pine, Comte de Flanders, Hovey's Seedling, Hooker, Honneur de Belgique, Jenny Lind, Kitly's Goliath, Large Early Scarlet, Longworth's Prolific, McAvoy's Superior, Moyamensing, Nimrod, Peabody's Seedling, Princess Royal, Scarlet Magnate, Scott's Seedling, Triomphe de Gand, Trollope's Victoria, Vicomtesse Hericart de Thury, and Wilson's Albany.

He regards the Wilson's Albany as a very valuable and profitable variety, and has shown his faith in it by planting full fifteen acres of it this spring. In addition to its many other excellencies, it has proved a superior berry for canning, or preserving, and was this season in great demand for these purposes. Its weight, size, solidity, flavor and color render it popular for this use. It is, moreover, eminently productive, and highly profitable as a market fruit. Mr. Knox is also very partial to Trollope's Victoria, an excellent variety of very large size, and delicious flavor, and which continues in bearing a long time. He has raised specimens of fruit this season, without

any extra attention, measuring from $1\frac{1}{2}$ to $2\frac{1}{2}$ inches in diameter.

But after a trial of three years, Mr. Knox places at the head of the list of strawberries, the *Triomphe de Gand*. The plants are thrifty, hardy, and vigorous growers, bearing their fruit well up, which renders it easy to be kept clean. They are also wonderfully productive, and the fruit is not only *usually* of very large size but *uniformly* so, and *throughout the season*, which is longer with it than with most other varieties. The flavor is everything which could be desired. It is of a very beautiful crimson color, glossy and altogether lovely. It keeps well after being picked, retaining its beautiful color and firmness, and carries better than any other variety. Fruit of this variety, and Trollope's *Victoria*, was bought this season from 50 cents to \$1 per quart, and was sent to Cincinnati, Philadelphia, and New York.

[We are much obliged to the friend who furnished us the above very interesting account of Mr. Knox's celebrated fruit farm. We have here given the Strawberry account, and in a future number will give Mr. K.'s experience with the Raspberry and Blackberry.—Ed. G. M.]

SHADE TREES IN CITIES.—Some time ago, a resolution was adopted in the Philadelphia Select Council, instructing the Committee on Highways "to take into consideration the propriety of limiting the kind of shade trees, to be hereafter planted or permitted upon the line of the public highways of the city, with a view to the removal of the nuisance of shade trees engendering vermin." The Committee, in accordance with the resolution, addressed a note to Mr. J. C. Sidney, the landscape-gardener, and designer of Fairmount Park, upon the subject, and the following reply was received:

In answer to your inquiry as to trees best adapted to the Public Squares, and those most free from worms and vermin, I would suggest the following:—Horse Chestnut, Sugar Maple, Tulip Poplar, Kentucky Coffee Tree, *Magnolia acuminata*; *M. conspicua*, *M. tripetala*, Deciduous Cypress, Liquidambar, Ohio Buckeye, American and European Beech, Purple Beech, White Birch, *Sassafras*, Dogwood, Turkey Oak, Scarlet do., White do., Chestnut do., Pin do., Catalpa, English Sycamore, American Linden, Kilmarnock and Weeping Willow, Larch, Norway Maple, Red Maple, Judas Tree, European Ash, and its varieties.

For street planting or avenues, the best probably are the Horse Chestnut, English Sycamore, Sugar Maple, Norway and Red Maples, Tulip Poplar, European Ash of various kinds, and American Linden. The above are durable, easily kept in shape, and as

yet are free from disease. To the above list might be added many beautiful trees of small growth, but which it would not be desirable to plant on account of the obstruction they afford to the circulation of air. Those only should be planted which, whilst they afford shade, attain a sufficient height to allow a free circulation below the branches. All quick-growing and evanescent trees should be avoided, and those which retain their foliage till late in the season should be preferred."

The Committee reported an ordinance, based on Mr. Sidney's list, "that hereafter, any person planting on the side-walk, any but those named, should be fined \$5, and have their trees removed by the 'supervisors.'" We alluded to the subject in a former number, and expressed a doubt whether any good could be accomplished by this means, and we now repeat it. The idea that the Maple trees "engender" vermin is ridiculous. Insects have their preferences, but when their favorite food fails, they take to the "next best" in the order it presents itself. All trees in this sense "engender vermin," and the list will require an annual revision, until there is nothing left to plant. The caterpillars are an undoubted nuisance, but they can be kept in check by a little perseverance. The ordinance should be against allowing caterpillars to remain on the trees—a fine of \$5 for this neglect, and eventual removal of the tree by the "supervisors," whose "practical" eye will more readily detect a caterpillar than a botanical distinction—would meet every difficulty.

YELLOW.—A farther investigation of the Yellows, as prevailing here, leads me to refer it to the intense cold of last winter. The same cold snap which burst our force-pumps and split into ribbons the bark of the Japan plum, the J. Privet and *Pittosporum*, exercised a like effect on the Peach, and the consequences in all (but the pumps) has been the same—death by yellows. Had the Pear "caught" it, it would have been the "blacks," or more familiarly the "blight." The pears, however, escaped, nor have I ever seen a similar condition in the Pear bark. Instead of being raised, it is invincibly adherent, as hard as horn and as black as blight.—F. O. TICKNOR, in *Southern Cultivator*.

FRUIT TREES IN HANGING-BASKETS.—Mr. Alfred Chamberlain, gardener to Hon. W. B. Lawrence, Newport, R. I., grows some of his choice trees in hanging-baskets in his orchard-house. The house itself is a fine structure. It is a lean-to three hundred feet long, built in the most substantial manner. The entire house is heated by hot water pipes, and is divided by glass partitions into sections of thirty feet each.

NURSERY ENTERPRIZE.—American nurserymen are often twitted with a want of enterprize, in allowing European tradesmen to “bring out” their new plants. We have always maintained that in proportion to the patronage they receive, they are second to none in public spirit. English nurseries are well patronised. Mr. John Standish paid *one thousand and fifty dollars* for his first plant of *Myosotidium nobile*, implying an enormous patronage to justify such a risk.

FORCING PEAS.—Mr. Elder, in *Farmer and Gardener*, says that these are forced in Delaware co., Pa., by hot air drains running under the soil.

LOCUST TREES IN THE WEST.—Mr. Phœnix says in the “*Farmer and Gardener*,” that these trees are getting as subject to the borer in the West as here.

CHEAP GREENHOUSE CHIMNEYS.—Wide pipes of Terra Cotta-ware, are now coming in use. They are cheaper for all kind of upright flues than brick.

APPLES FOR EASTERN PENNSYLVANIA.—Mr. Noble, an extensive apple-grower, gives his preference, in the “*Germantown Telegraph*,” as follows:—

I herewith send a select list of apples, for each season, many of which are local varieties and do well here:

SUMMER.	FALL.	WINTER.
Townsend,	Cornell's Fancy,	Smith's Cider,
Red Astrachan,	Calf Pasture,	Rawl's Jennet, or
Maiden's Blush,	Fall Pippin,	Neverfail,
Summer Pearm'n,	White Doctor,	Princely,
Early Margaret, or	McClellan,	Fornwalder,
Red Harvest,	Gravenstein,	Ridge Pippin,
Woolman's Har't,	Porter,	Smokehouse,
Mather or Nash,	Wine or Hays,	Bullock Pippin,
Sheppard,	Newtown Spitz-	Hubbardston's
Prince's Early	enberg,	Nonesuch,
Harvest,	Baldwin,	Cooper's Redling,
Chrystalor Cheese,		Pennock.

For smaller selections, the first three or six of each season may be selected.

NECESSITY OF OXYGEN TO THE ROOTS OF PLANTS.—If the water in which the roots of a plant are immersed be contained in a close bottle only partially filled with the water, while the remainder is occupied by atmospheric air, the oxygen in this air will slowly diminish, being absorbed by the roots through the medium of the water. The roots extracting it from the water, and the water absorbing it from the air. If carbonic acid, nitrogen, or hydrogen, is substituted for the atmospheric air in the bottle, the plant droops and dies in a few days.

These facts evince that oxygen is required by the roots of plants; but practice also suggests that different plants require different quantities of that gas. This suggestion arises from the fact, that some genera, as the grasses and bulbous-rooted plants, require an

open, light soil, easily penetrated by the air; whilst Beans, Clover, and other plants require a stiff soil less penetrable by the air.—(JOHNSTON'S *Lectures on Agricultural Chemistry*.)

CHANGES IN SPECIES.—In our note to Mr. Bright's article on Hybridizing, we alluded to the singular fact of Mr. Powell producing a Fertile cherry from the same two parents which Mr. Knight failed with. At page 18 of our last volume is an account of some experiments by which the wild carrot was made equal to, in fact, the carrot of the vegetable garden in five years. Mr. Buckman, of London, carefully tried the same experiment, and utterly failed; while at the same time he carried on experiments with the wild parsnips; and, singular to relate, in ten years obtained the garden parsnip perfect. Amongst grasses the same experimenter found *Glyceria fluitans* and *Poa aquatica*, to be produced indifferently from either seed. He also found that *Festuca ovina*, *F. duriuscula*, *F. rubra*, and *F. tenuifolia* were all forms that had sprung on the Darwin theory from *F. elatior*.

TO COCK CELERY.—Celery stewed in plain water until tender, and sent up to table with a toast and melted butter, exactly like Seakale, is an admirable auxiliary to a mutton-chop, &c., and for those who cannot masticate it in a raw state.

PRESERVING DWARF BEANS.—Wm. Appert says:—“I cause the Beans to be gathered as for ordinary use. I string them, and put them in bottles, taking care to shake them on the stool, to fill the vacancies in the bottles. I then cork the bottles and put them in the water-bath, which is to boil an hour and a half. When the Beans are rather large, I cut them lengthways into two or three pieces, and then they do not require being in the water-bath longer than one hour.” When they are to be used, he gives the following instructions:—“Scald the French Beans as if they were fresh, in water, with a little salt, when not sufficiently dressed by the preserving process. This often happens to them as well as to Artichokes, Asparagus, and Cauliflowers. If sufficiently boiled, on being taken out of the bottles, I have only to wash them in hot water, in order to prepare them afterwards for vegetable or meat soup.”

HOUGHTON'S SEEDLING GOOSEBERRY.—Mr. Rawson says, in *Country Gentleman*, was grown from seed by Mr. Abel Houghton, twenty-seven years since, while a resident of Lynn, Mass.

Mr. Houghton produced his berry in the following manner: Having selected from *eighty* of the *best English varieties* four which he considered the finest, viz., Crown Bob, Whitesmith, White Rock, and Red Cham-

pagne, he planted them out in the form of a square, in the center of which was planted one of the best natives found in the woods.

One plant only, produced good fruit and free from mildew; that one being the present "Houghton's Seedling."

While the raisers of inferior fruits have reaped handsome fortunes, Mr. Rawson, though one of our greatest pomological benefactors, derived comparatively nothing from his Gooseberry.

BALTIMORE PARK.—We are pleased that all difficulty in the way of this undertaking has been removed, and that a plan by Mr. Howard Daniels of New York has been adopted for it. We have not yet seen the details of the plan, but are assured from the well known talents of this gentleman, that it will do ample justice to the selection.

OBITUARY.

MR. ROBT. ERRINGTON.

Horticultural literature has suffered a loss in this gentleman,—whose practical writings are scattered over most of the British periodicals for nearly the last half century. He was for the last 32 years gardener to Sir P. Egerton. He was one of the little band of gardeners who threw superior intellectual acquirements into the measure of their practical excellencies, and who under the lead of Loudon, raised the character of a British gardener to little less honor than is usually bestowed there on the regular "learned professions."

Foreign Intelligence.

PROPAGATING BULBS FROM LEAVES.—M. Hilbrouk, gardener to the Duke of Brunswick, has found that the half-matured leaves of the Hyacinth, cut across the mid-rib, form small bulbs readily. Many bulbs may probably be so raised.—*Deutsches Magazin.*

MR. W. R. PRINCE ON CURRANTS.—The *London Gardener's Chronicle*, has been taking brother Prince in hand for a statement he made last summer in the *Rural New Yorker*, that the English knew nothing about the sixty kinds of currants "enumerated," we presume in Mr. P.'s catalogue. It thinks the French, and "some other people," are as ignorant of most of them as "English gardeners."

DENDROMETER.—A small pocket instrument has been invented in Edinburg, by which an angle of 45° is readily obtained with the top of the tree, and the level from the stem to the eye, thus forming a right-

angle triangle in which the height of the perpendicular is equal to that of the base.

EVER BEARING STRAWBERRIES.—In a late number of the *Horticulteur Praticien*, is an article on this subject by De Lambertye, a distinguished French pomologist, in which he asserts that as far back as the year 1766, monthly, (*du mois*), or twice bearing (*bifere*), strawberries, were known and cultivated both in France and England, under the name of *Alpine du mois*, or *quatre saisons*, and that they are not a distinct species, but merely a variety of the *Fragaria vesca* of Linnaeus rendered quasi-perpetual by accident, seed, agriculture or climate.

LISTS OF A FEW SUPERIOR FLORISTS' FLOWERS.—They are selected for their good qualities, not because they are new or expensive, but such as will, when well grown please any cultivator. *Six Azaleas.*—Alba magna, Criterion, Iveryana, Perryana, Gem, Rosy Circle. *Six Camellias.*—Alba plena, Bruceana, Countess of Orkney, Eximia, Imbricata, Marchioness of Exeter. *Six Roses for Pot Culture.*—General Allard, Coup d'Hebe, Devoniensis, General Jacqueminot, Gloire de Dijon, Vicomtesse de Cases. *Twelve Dahlias.*—Beauty of Bath, Lord Palmerston, Sidney Herbert, Lady Franklin, Annie Salter, Duke of Devonshire, Lady Bathurst, Queen of Whites, Royal Scarlet, Henrietta, Jenny Lind, Sir John Franklin. *Eighteen Fuchsias.*—British Sailor, Catherine Hayes, Chancellor, Crown Jewel, Eclat, Estelle, Glory of Stoke, La Crinoline, Little Dorrit, Magic Flute, Marquis of Bath, Lord Clyde, Princess of Prussia, Premier, Queen of the Sea, Rose of Castille, Sir Colin Campbell, Wiltshire Lass. *Eighteen Pelargoniums.*—Large: Admirable, Belle of the Season, Blink Bonny (Foster's), Bride, Pride of the West, Criterion, Duchess of Marlborough, Empress Eugenie, Fairest of the Fair, Fire Queen, Governor General, Hyperion, King of Scarlets, the Belle. *Spotted:* Conspicuum, Edward Henderson, William Bull, Virginie Mieliez. *Six Fancy Pelargoniums.*—Clara Novello, Decision, Crimson Pet, Madame Rougier, Princess Royal, Sir Joseph Paxton.—*London Cottage Gardener.*

ON THE CULTURE OF THE CAMELLIA IN THE PARLOR OR DRAWING ROOM.—I had three tables made, about five feet long, and three feet three inches wide, with stripes around the edges, so as to be about a third of an inch above the margins all round, and then common (sawed) laths cut into short pieces, and placed about two inches apart on the top surface of the tables, so that the water which ran from the flower-pots could pass from one part of the tables to

another, crossways or lengthways, and pass out at a notch in the edging spoken of above; by which means the pots would not stand in the water which runs from them. Those tables I placed far enough from the windows and walls to allow a person to pass all round them, and to water and syringe the plants, which made a space of about one and a half or two feet in front and at the ends. The tables should be of a height in proportion to the windows, which windows should be made to let down at the top, by that means the plants can have air let in upon them, without a strong current passing through them. This I consider a very important matter, as a strong draught or current of air is very injurious.

Plants in rooms should be watered more frequently than in greenhouses, and they should be syringed over the tops *every evening* about sunset, in dry weather, and twice or thrice a week in wet weather. The syringing will not injure a carpet upon the floor, if the water is wiped off immediately after the drip ceases to fall from the leaves.

Those that I would recommend as the best to flower in parlors are the semi-double, and that have a green calyx; also all the single varieties. The plants should have air, by letting down the top sash whenever the weather is mild, or when there is no frost in the atmosphere, for a short time, though it may be cool. Camellias require a great quantity of air; they will bloom in a room where the heat varies from 35° to 50°; but will bear a much greater heat and bloom well, and on some occasions they will flower, even though the earth on the top of the pot has been slightly frozen; but extremes, either of heat or cold, do not suit them.

I have had Camellias bloom finely on tables as above, where the sun did not shine on them; but, in such cases, they should have a great quantity of light.

I generally use soft water for my plants, both winter and summer, and it is better if warmed to the same temperature of the room, in winter. As to general watering, I think it best, whenever the top soil begins to get dry, to water well and freely, so that the water may pass to the bottom roots, and to repeat the watering when the surface begins to get dry again; when Camellias are blooming or growing, they require more watering than at any other time.

[We extract the above from the *London Floricultural Cabinet*, as it is excellent advice. The writer concludes by rules for summer management, which are not adapted to our climate. We therefore add, that in May, after all danger of frost is over, they should be removed to the open air, and placed in a situation where they will be shaded all through the summer from the hot mid-day sun. They will about finish their growth at that season, and will not require so much water.—Ed. G. M.]

PENNSYLVANIA HORTICULTURAL SOCIETY. October 16th.

The Committees made the following awards:—
Table Design—Best to Thomas Meghruu. Second best to R. Kilington.
Bouquets—Best to J. A. Gehring. Also a special premium to William Joyce, for large Basket of Cut Flowers.
Grapes—Foreign, Best to John Landers. Second best to James Astley.
Isabella Grapes—Best to John Landers. Second best to J. A. Gehring.
Catawba Grapes—Best to John Cook. Second best to J. McLaughlin.
Pears—Six Varieties, Best to J. McLaughlin.
Apples—Four Varieties, Best to S. W. Noble. Second best to William Joyce.
Apples—Half Peck, Best to S. W. Noble. Second best to John Perkins.
Also, special premium to William Joyce, for Pears. Also, to P. S. Bunting, for a Dish of fine Seckel Pears.
Celery—Best to A. Felton. Second best to William Randall.
Cabbage, Six Heads—Best to James Matheson.
Savoy Cabbage—Best to W. Randall.
Also, special premium to A. Felton, for a fine collection of Vegetables, and also to James Matheson for a collection of six varieties of Radishes.

YONKERS HORTICULTURAL SOCIETY.

This young Society has again made a very successful exhibition. From the report sent us we learn only the names of the successful competitors. Amongst them we note Mr. T. Ryan, gardener to C. H. Lilienthal; Mr. Ryan, gardener to N. T. Coleman; W. A. Hall, gardener to John Lee; P. Ryan, gardener to J. B. Colgate; Charles Thomas, gardener to W. P. Wright; W. Bell, gardener to Mr. Boyd; Daniel Gayner, gardener to Richard Laurence; W. Thompson, gardener to John Gibson; John Neary, gardener to W. W. Scrugham; P. Lyons, gardener to M. Le Boutellier; John Coleman, gardener to W. Vail; T. Mullins, gardener to C. R. Woodworth; W. McKnight, gardener to Misses Bell; Robert Caron, gardener to M. T. Bolmar; M. Golson, gardener to Col. Dudley; W. Monaghan, gardener to P. Poillen; A. Moonan, gardener to T. S. Cozzens, etc.

We notice throughout the report such remarks as the following: "would have been entitled to the first premium but for the rule excluding professional gardeners from competition." There does not seem to be the genuine "ring" to this. Probably we have mistaken the meaning; but as it reads, it sounds awkward. The idea, perhaps, intended is, that those who merely "profess," and do not practice, gardening cannot compete. If so, it is excellent; but a less ambiguous way of expressing it would have been better.

BROOKLYN HORTICULTURAL SOCIETY.

It seems the fate of most Horticultural Societies to hold their exhibitions so late in the month that it is next to impossible for us to get their reports in time for publication the same month; and it seems stale to publish them when nearly two months old. The Brooklyn notes reached us after we had gone to press last month. It seems to have been a very successful affair.

The principal exhibitors were: Messrs. Weir, Humphreys, Ellwanger & Barry, Field, Mart, Quin, Sprunt, Gordon, Keller, Peter Henderson, Ryan & Co., Cowan, Merritt, Fuller, Mullen, Richardson, Vieth, Pollock of Philadelphia, Egan, Brenner, Poynter, Schweig, Tanner, Cox, Huggins, Menand, Hamlyn, and Humphries. The names of none of the many fine plants or fruits on exhibition were sent us with the report.

INDIANAPOLIS HORTICULTURAL SOCIETY. First Annual Exhibition.

The Executive Committee congratulates the members upon the successful result of the first exhibition of the Indianapolis Horticultural Society, held at the State House. Much of this success is due to the prompt and liberal response of the florists of our city and vicinity to the request for articles for exhibition. Far exceeding their most sanguine expectations was this department represented. The display was characteristic of the taste of our citizens, and reflected great credit upon those engaged in floriculture in and near Indianapolis, and was not inferior to that of older societies in larger cities.

Charles Mayer obtained the first premium for Exotics. The most noticeable were *Hydrangea variegata*, *Begonia bicolor*, *Datura arborea*, *Viburnum variegata*, *Justitia magnifica* (elegant), *Maranta zebra* (large and beautiful), *Pitcairnia punicea*, *Fuschia voltigere* (tastefully trained).

Mr. Schnell secured the second premium. Of these were *Agave Mexicana* (large), *Sago Palm*, *Schollia speciosa*, *India-rubber tree*, a dwarf *Orange tree*, bearing both bloom and fruit, and several varieties of *Cactii*, *Geranium*, *Fuschia*, and *Lantana*.

Mr. Weghorst, who obtained the first premium for general collection of flowers, showed some splendid Dahlias—nineteen varieties;

thirty-one varieties of Roses, many of them superb; three Begonias; five Lantanas; *Schubia speciosa* a wax plant in bloom; Males; *Justitia venosa*; Sage Palm; *Drosera alba*; and several varieties of Cacti and Geraniums.

Mrs. Locke, who obtained the second premium, exhibited a mammoth Lantana, fully six feet high, a Hydrangea in flower, Bohemian Tea Plant, Salvia, Begonia, Clerodendron fragrans, and several varieties of Fuchsias, Geraniums, and Lantanas.

The Floral Ornaments by Mrs. C. B. Smith, Mrs. Howland, and Mrs. Locke, as well as Bouquets by Messrs. Mayer, Weghorst, Schnell, Goldsmith, and Mrs. Locke, were beautiful.

Dr. Mears presented some fine Isabella, Catawba, Herbmont, Dorr, and Charter Oak Grapes; Mrs. Locke the Clinton, Isabella, and Catawba; S. Rea the Isabella and Catawba; and David V. Cully a Swiss variety, the Michigan Seedling, native of Northern Indiana, and the Dorr; the Diana by Edward King.

The largest Peaches were exhibited by Mrs. N. F. Cunningham and P. A. Daumont. Mrs. Locke presented some fine specimens of a seedling Peach, a Yellow Cling, from a tree four years from the seed.

The Pears, embracing Louise Bonne de Jersey, Virgaldien, Fall Butter, Seckel, and a nameless variety, by Dr. Mears; the Bartlett and a nameless variety, by Mrs. Locke, and some Winter Pears, by Mr. Schnell, were much admired. Some Quinces by the latter gentleman were large and fine.

One attractive feature was a Fig tree of vigorous growth, and loaded down with clusters of fruit, most of it nearly ripe, exhibited by Alfred Harrison.

The Ohio Everbearing Raspberry, by Dr. Mears, and Fletcher, Williams & Loomis, and Hudson's Seedling Strawberry, by H. Mankedick, completed the fruit department.

The Committee are pleased to announce that the sale of bouquets, floral ornaments, fruits, and vegetables in the evening produced quite a revenue to the Society. The bidding was quite animated, and the purchasers all seemed well pleased with their bargains.

Premiums were awarded as follows:—

FLOWERS.

- Best display of Exotics and Greenhouse Plants—Chas. Mayer, \$3.
 Second best—S. Schnell, \$2.
 Best General Collection of Flowers, including Roses and Dahlias—Henry Weghorst, \$3.
 Second best—Mrs. R. S. Locke, \$2.
 Best Pot Roses—S. Schnell, \$1.
 Best Floral Ornament—Mrs. S. Locke, \$2.
 Best Bouquet—Henry Weghorst, *Gardener's Monthly*.
 Second best—Chas. Mayer, *Indiana Farmer*.
 Third best—S. Schnell, 50 cents.

FRUITS.

- Best Collection—Dr. G. W. Mears, \$3.
 Second best—Mrs. R. S. Locke, \$2.
 Best Dwarf Fruit-bearing Trees of any kind—Alfred Harrison, for a Fig tree, \$1.

VEGETABLES.

- Best General Collection—J. T. Francis, \$3.
 Second best—S. Rea, \$2.
 Best Tomatoes and Late Corn for Table Use—S. Rea, *Indiana Farmer*.

The Committee have every reason to believe that the Horticultural Society is now established upon a firm basis, notwithstanding the many discouragements and obstacles heretofore thrown across its path. The success of this, the first exhibition of an infant Society, has done much toward quickening the pulse of the doubtful and cheering on the hopeful. As our object is to aid in disseminating "useful knowledge in the cultivation of vegetables in every variety, of fruits and flowers, of trees and shrubs, and all that can surround home with the ornamental of husbandry," can we not hope that the approving smiles of our citizens, aided by continued exertions on our part, will give the Society an impetus which will insure its permanency?—the result of which will be to give to our people more delicious fruits for the table, better vegetables for our markets, and "home, sweet home" made more beautiful for all.

[The Executive Committee, in conclusion, would recommend that a Spring Exhibition be held some time in June, 1861, in Masonic Hall, for two or three days; that the premium list be made as liberal as possible, and that a small admission fee be charged to defray the expenses.]

ALFRED HARRISON, D. V. CULLY, G. W. MEARS, E. LOCKE, AUSTIN H. BROWN,	} Executive Committee.
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We have given the above report in full because it is a model for older societies. The names of the fruits and flowers on successful competition are given, by which parties at a distance can judge of the state of gardening at Indianapolis. While thus giving information that interests the whole of our readers, the main object of a horticultural journal, we have the pleasure of knowing that we are at the same time aiding the Society in extending the honors earned by successful exhibitors.

TOLEDO (O.) HORTICULTURAL SOCIETY.

At the Annual Meeting in September, J. A. Scott, A. D. Pelton, Dr. Trembly, George Powers, J. W. Ross, W. Breed, M. Whitmore, P. Carey, P. H. Shaw, S. Blanchard, A. Fahnestock & Sons, Dr. Jones, M. Harroun, and Charles Kent were amongst the principal exhibitors.

A vote was taken as to recommending for growing in this vicinity, of some of the kinds exhibited, and they were classified as follows:

No. 1, WINTER APPLES—Northern Spy, Baldwin, Rhode Island Greening, Fort Miami, Jonathan, Newtown Pippin, Esopus Spitzenburg, White Pippin, Yellow Bellflower, Ortley, Rambo, and Belmont. Roxbury Russet voted a No. 1 Russet.

No. 1, FALL APPLES—Jersey Sweet, American Summer Pearmain, Early Strawberry, Porter, and Fall Pippin.

POPULAR MARKET APPLES—Tulphocken, Detroit Red, Newtown Spitzenburg.

GOOD APPLES—Russet Greening, Fall Wm. Dyer, Duchess of Oldenberg, Vandevere, Rawley's Janet, and Fameuse.

NOT WORTHY OF CULTIVATION—Vandevere Pippin, Pennock, Cheeseboro Russet, and Alexander.

Diana Grape recommended.

Concord Grape voted good.

Isabella and Catawba Grapes voted general favorites, but the latter does not ripen at all times.

Clinton Grape voted hardly and productive.

Charter Oak Grape voted not worthy of cultivation.

On motion of the Secretary,

RESOLVED, That the apples that are left over and unsold for, be sent to our County Fair for exhibition only, not for premiums.

J. AUSTIN SCOTT, President.

J. H. CAMPBELL, Secretary.

AMERICAN POMOLOGICAL SOCIETY.

Corrections by Mr. Bateham.

The Report of our Pomological Meeting as given in the *Monthly*, is, perhaps, as correct as we had a right to expect, considering the noise in the room. But it contains errors which mar the sense in some cases, and you may think best to rectify them to prevent readers being misled. I will note a few, and presume that others will do the same.

On page 6, 1st column, COGSWELL and FERNWALDER should appear as two distinct fruits; the former not discussed. Same page, near the bottom of second column, Mr. BATEHAM said that speaking was a detriment to any fruit, instead of "no detriment." Page 7, near the top of the first column, Mr. TAYLOR said, "it is not one of our winter apples." Same column, under WINTER SWEET PARADISE, there was no "Mr. Taylor, of Ohio." Mr. Bateham, of Ohio, made remarks, but not those there given. (See Mr. Vick's Report in the *Rural New Yorker* for my remarks here, and also RAWLEY'S JANETTE; but he puts the word "South" for "North" in my last remark on R. JANETTE.) Page 9, "Common Pearmain" should read "Cannon Pearmain." (Mr. Vick makes the same mistake.) Page 13, RAWLEY'S JANETTE. Mr. Bateham said it was small in size at the North; he did not make the remark attributed to him near the top of the second column. Page 14, first column, "MOORE SWEETING" should be MOORE'S SWEETING (see Downing); and second column, "RAWLEY'S JEANETTE" also "Waugh's Jeanette" should read "Waugh's Crab." (See Vick's Report.)

HINGHAM (MASS.) AGRICULTURAL AND HORTICULTURAL SOCIETY'S EXHIBITION.

The Second Annual Exhibition of this Society took place on Wednesday and Thursday, September 26th and 27th, at the Town Hall, and on grounds in the vicinity. It was, in every respect, a success, surpassing even the expectations of its friends and contributors. The horticultural display was confined to the Hall and pavilion adjoining, and consisted of seven long tables filled with fruit, flowers, vegetables, &c. The fruit included about five hundred plates, and the Pears Grapes, and Peaches were especially plenty and fine.

Amongst the successful exhibitors we noticed the names of E. C. Sargent, of Quincy; J. R. Brewer, of Hingham; S. L. Burr; M. C. Dizer, of E. Weymouth; T. T. Bouve, Mr. John Todd, Alfred Loring, E. B. W. Lane, Fearful Burr, Abner Leavitt, Martin Leavitt, George Lincoln, Jr., Albert Fearing, John O. Lovett, John C. Gardner, C. and H. Wilder, and Caleb Henry.

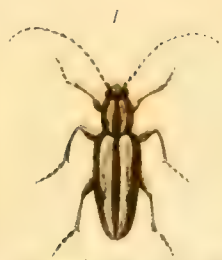
David Leavitt also exhibited mammoth Mexican Squashes.

Peter Hobart displayed 24 varieties of Beans.

J. R. Brewer, F. Mayhew, Amos Bates, and Dr. D. P. Wilson also exhibited.

About one thousand persons procured tickets for the grand dinner, after which speeches were made by Mr. Davis, President of the Plymouth Co. Society; Hon. Josiah Quincy, Jr., formerly Mayor of Boston; Hon. John H. Andrew, Mr. Buckminster, of the *Massachusetts Ploughman*, and others. The military and music also added their attractions; while the occasion seemed to offer another season for recreation and friendly intercourse.

Plate I



Saperda cinctula Fab.



S. Vestita



S. Calceola



Saperda conspurcator
Leconte



Saperda aborea
tripunctata



Rhaphium erichsoni



Clytus floricornis



Anthrenus fulvipes



Hylotrupes bajulus



Elaphidion ulmariae



Elaphidion quadrispinosus

THE GARDENER'S MONTHLY.

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THOMAS MEEHAN, EDITOR.

DECEMBER, 1860.

VOL. II.—NO. 12.

Hints for December.



FLOWER GARDEN AND PLEASURE GROUND.

Flora having deserted us for more southern climes, and Pomona being on the eve of following her twin and lovely sister, we are thrown entirely on our own resources for matter for this department of our journal. Some may envy those distant lands where the sun never sets, where perpetual summer reigns, and where the homely salutation of "may your shadow never grow less," is a dubious compliment. We prefer an occasional change, and are rather glad to have our titular deities once in a while away. They are lovely beings no doubt, but like most fair creatures, somewhat despotic; not that we would rebel at such tyranny, for we ever feel happy while hugging our chains, but there is a pleasure in the idea that we can rule our rulers, and that if we are to be governed, we may at least choose the path in which we would rather go.

And so at this season of freedom from restraint, let us propose, examine, and decide on our course for the ensuing year. "Night brings out stars, as sorrow shows us truths," and winter reveals to us defects in gardening taste and arrangements, we should else have had no conception of. Let us note well every point capable of improvement, every alteration that can be made without prejudice to the original design, every novelty that can be consistently with propriety introduced, and every change that would commend itself to our notions of good taste and elegance; so that when Flora shall return to roll away the stone from the sepulchral heart of winter, we shall be ready to go earnestly to work to prepare a place where she may feel proud to "sit therein our angel," and guide us to the enjoyment of one of the purest pleasures earth can bestow—a beautiful and well conducted garden.

GREENHOUSE AND CONSERVATORY.

We are pleased to notice that our efforts to introduce cheap greenhouse structures to general notice have had a distinctly visible effect. The sketch given by "Schuylkill" in our specimen number excited extraordinary attention, and although two years have barely elapsed since the appearance of the article, hundreds of houses on the fixed roof principle are now distributed over the Union, where no houses at all would have been erected but for the immediate popularity of the idea. To lessen the cost of a greenhouse one-half, and in many cases two-thirds over former rates, was an immense stride to effect by one effort.

Every one now feels that there is no excuse for the absence of a conservatory or plant cabinet of some kind in connection with their winter residences, and the consequence is they are becoming "all the fashion," and are deemed as necessary to a complete house as the parlor or drawing-room. Many of the designs that we have recently seen by "first rate architects," look as if the authors had been, in the language of police courts, "shoving the queer," for certainly, as houses for successful plant growth, a good gardener would pronounce them miserable counterfeits. But this will all come right in time. We are glad to record the fact of the so general adoption of the principle.

The greatest troubles come with trying to keep the houses warm. In the endeavor to provide against frost, the plants become roasted. In the struggle with the Ice King, fires should form the *corps de reserve*. The house should be built on a warm and sheltered aspect. Then every crevice, crack, and chink, should be carefully closed by list, and the result will prove an astonisher in maintaining the temperature. Then shutters or mats may be employed to great advantage; we know one friend who has a curtain made of old carpet, which slides on rings along the front sash of his greenhouse, and he succeeds in keeping out a great degree of frost with very little fire. The principle might be carried still further, the whole slope of the roof might be protected by either a woollen or even cotton sheeting fixed on a roller at the apex, and let down under the glass. By horizontal wires drawn every few feet

under the space where the sheet would work, any "baginess" that would otherwise be an objection would be removed. We have never seen this put in practice, but we are sure it would require but very little genius to make the idea work well. It would save its cost in fuel the first year, and add tenfold to health and beauty of the plants.

When fire heat must be applied, it should be led by flues as near to the coldest part of the house as possible; and when it is in operation the syringe must be often applied to make a moist atmosphere. It is the dry air fire heat necessitates that renders it so injurious to vegetation. Pans of water may also be set on or near the flues. Another danger also follows fire heat. When the sun shines warm plants usually dry at the top of the soil first, and it is easily seen when it requires water; but fire heat dries the plants from the bottom upwards, and the necessary syringings by moistening the surface, leads us often to think the plant is all right, when in reality it is under the shadow of death.

The remedy is a watchful eye, to detect the first appearance of wilting of the foliage, when the plant should have a thorough soaking of water, that will show itself through the hole in the bottom of the pot. The water employed should be as nearly as possible of the same temperature as the house, which can be secured by keeping a tub always full on finishing the daily waterings.

A conservatory requires rather a higher temperature than a mere greenhouse. In the one flowers in bloom is a chief object: to keep them well over the winter is more the point with the latter. Plants will not grow and flower well under 55°, but the temperature should not be allowed to go above 60°. In very cold nights, when there is a strong fire heat, the temperature may be lower. Hanging baskets, which are now so generally employed for room, cabinet, and conservatory decorations, frequently have their plants injured by getting too dry. It is a good practice to give them occasionally a dip for a few minutes entirely under water. Ferns and lycopodiums, also very popular, do best in the most humid part of the house. If in a room or place where the atmosphere is very dry, no success can be expected unless a glass case be kept for most part of the time over them.

Mildew often makes its appearance at this season in plant houses, especially on young and the tender leaves of roses that are kept growing for their winter flowers. Practical men are not yet agreed on the causes of mildew, but on one point there is but one opinion, namely, that mildew will not attack a healthy plant, if at all, as certainly as it will an unhealthy one. A good way to treat a mildewed plant, will therefore be to place it at once in the situation we can best command for a combination of

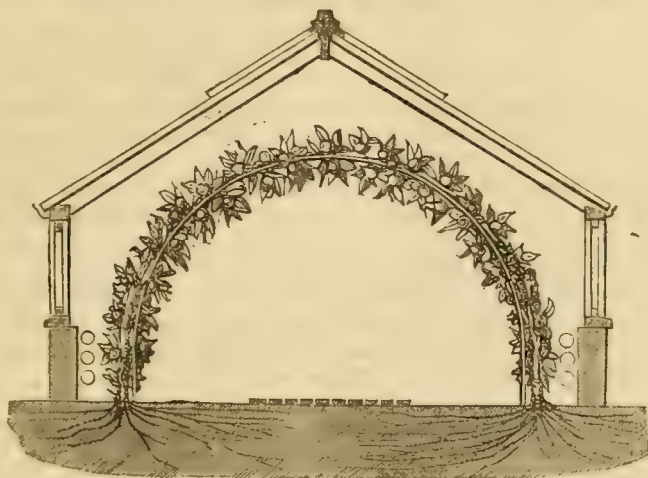
healthy circumstances. The plant may have been partially crowded by others; set it by itself where it can have a good circulation of air all round it. It is perhaps near the door where it is subjected to frequent and sudden changes; or near the fire where it was rapidly dry and moist by turns; or in partial shade that induced defective growth: all this should be remedied. In desperate cases sulphur water proves an excellent remedy. Flower of sulphur is mixed with water and syringed over the plants. Dry sulphur peppered through a sandbox, would do as well, if the plant is syringed first—the water is not to "dissolve" the sulphur, but to make it stick to the leaves. When sulphur is used in this way it is important to success that the house be kept very warm for a short time, as it is the sulphurous fumes given off that does the work of death. Of course sulphur must not be suffered to ignite, or the sulphurous acid becomes sulphuric, and the plants as well as insects suffer. Constant cleanliness is important to healthy plant growth. Air should be freely given whenever the external air and that of the plant house is about the same, at other times it is dangerous.

A few nice plants will always be more satisfactory than a mass of crowded skeletons. Such plants as pelargoniums, calceolarias, cinerarias, &c., when properly treated, make such plump and happy looking objects, that the owners of such would not exchange them for a houseful of the pictures of misery so often exhibited. The secret is to keep them growing as much as possible, as near the direct light as possible, and as bushily as possible. As the pots become filled with roots they are carefully shifted into pots a size larger, and when these are filled again repotted into others, until a few weeks before their time of flowering. A thoroughly practical hand will keep them in very small pots, making up the loss of nutriment by applications of manure water, and carefully watching the signs of dryness in the soil, for the exact moment when to apply, but our remarks are not intended for the educated gardener, but for those to whom a little knowledge often proves a dangerous thing. The bushiness of a specimen is made by pinching off the strong leading shoots, and training the weaker unstopped ones out to the edge of the pot. This used to be accomplished by a bundle of stakes, making the plant look as uncomfortable as an old time drunkard in the pillory—the modern plan is to fix a band of twisted bast matting around the rim of the pot, and from this lead light invisible strings to any desired part of the plant.

VINERIES AND FORCING HOUSES.

The forcing of fruit continues to excite increasing attention, and is fast becoming one of the chief plea-

tures of the gardening art in every garden of superior claims to excellence. Peaches, nectarines, apricots, and cherries, particularly do well—the three former doing well under the same treatment in the same house. They can be grown either in pots, tubs, or in the open ground; the most usual mode being a combination of all. We have been most successful where some have been planted out against the wall of a lean-to house, and pots and tubs afforded all the space of the ground floor. For very early forcing these lean-to structures are the best, as they can be more easily kept warm than span roofs. For very early crops the houses may now be started, keeping them at about 55°, and increasing it to 60° in a few weeks after. The syringe must be kept vigorously in use in order to assist the bursting of the bud. For late forcing a span roof is best, as it has many advantages over the other kind. It encloses more space at a proportionately less cost, and admits of more beauty of arrangement. The following cut we have recently seen in the *London Weekly Magazine*, and affords a good hint for interior arrangement.



Where grapes are to be forced very early they have already been commenced, and will have the buds already burst, but as a rule very few attempt it till now, and they will come in nearly as early as any that have been already tried. We have in former numbers stated that one of the main points of successful forcing is to keep the roots healthy. Most plant disorders commence there, and in forcing this becomes more evident than in ordinary plant growth. In pots it must be seen that the water passes readily away after application. It is a good sign of healthy root growth that the soil dries rapidly after watering; if it do not, depend upon it there is something wrong. If the soil, especially if it is in a moderately large pot for the size of the plant, do not dry up for days after watering, shake out the plant at once, and repot it very carefully in new fresh soil. Under no circumstances should water be used in forcing of a less temperature than the house, and if it can be used from 15 or 20 degrees higher occasionally, it will materially help the vigorous root growth so much to be desired.

In cold vineries the pruning may be proceeded with as convenience admits. The advances which the science of pruning has made, make a very trifling job of winter pruning, which formerly used to be a formidable affair. Summer pruning is now so managed that the plant's strength is guided at that season into just the channels we want it, and all that is left now to be done is to cut away any portions of the vine, where we may wish it to push stronger next season. If the vine is weak we cut it down altogether.

Vines in the open air require very much the same system of management as these in cold vineries. If all the growth seems concentrated on the top, shorten in the weak ones below pretty severely, and very little on the top; and in the spring just after these strong top ones have pushed forth their buds several inches, strip them out, which will in a measure exhaust the vigor of that section of the plant, and give the lower ones a chance of appropriating to their use a portion of the nutriment which would otherwise have been absorbed to assist the growth of those taken away.

DUCHESS D'ANGOULEME PEAR.—Originated in a hedge in the Forest of Armaille, and was named from its being found in July, 1815, about the time the French Royal Family returned the second time from exile.

ENTOMOLOGICAL ESSAY.

Read before the Fruit-Growers' Association of Eastern Pennsylvania at its Meeting in West Chester, on the 13th day of June, 1860

BY S. S. RATHVON, ENTOMOLOGIST OF THE ASSOCIATION.

(Continued from page 329.)

INJURIOUS INSECTS.

Your Committee on Insects have not had an opportunity, since the last meeting of the Association, of making any new discovery of remedies against insect encroachments, nor yet to test the efficacy of those that have already been suggested. Nevertheless, as the present seems to be the proper time to prevent injuries from insects; and, as all may not have opportunities to refer to works where this subject is treated of in detail, a few remarks in regard to the habits of some common species may not be inappropriate. Among the noxious insects, permit me to present the following:

1st. *Saperda bivitata* of Say, or "apple-tree borer." *Saperda candida* of Fabricius—Plate I. Figure 1. Length, from a half to five-eighths of an inch; color, light brown, with two white longitudinal stripes upon the thorax, and one on each elytrion, or wing-cover; antennæ, longer than the body. The larvæ is represented by fig. 1. a, and is a fleshy, whitish grub, tapering a little from the first segment to the end of the body. The head is small, brown, and horny. This insect makes its appearance in the perfect beetle state about the 1st of June, and continues with us until about the 1st of July, during which period it is mainly occupied in the work of fecundation and depositing its eggs; its food consisting of the tender leaves of trees. In addition to the Apple tree, it also attacks the Quince, the June-berry, the Mountain Ash, the Hawthorn, and other thorn-bushes, with the probability of also attacking the Pear, if it has not done so already. An orchard surrounded by a hawthorn hedge might prove a protection to the trees inclosed in it, as it would be likely to attract the borer to the hedge in depositing its eggs. The hedge, in turn, might be left to the protection of the birds, especially the woodpeckers, who above all others of the feathered tribes possess the most efficient instruments for the dislodging and destruction of worms. As these insects conceal themselves during the day, and fly abroad at night, many of them would also fall a prey to bats. But where the borer is already in the tree, Dr. Asa Fitch recommends the scalding them in their burrows, as the least injurious to the tree, and without disfiguring it. If the bark is penetrated with an awl, it will become apparent where the upper end of the burrow is, not far from which, also, will be found the worm. There make a small hole, and pour in the hot water through a narrow spout made for that purpose. After the hole is made, the cuttings of the worm should be cleaned out, and the hot water continued until it is seen oozing out below. To prevent the insect from depositing its eggs about the bottoms of the trees, they should be washed two or three times every week during the month of June, and, perhaps, the first week of July also, with a mixture of soft-soap and tobacco-juice. According to Dr. Harris, it takes from two to three years for this insect to mature itself in the larva state.

2nd. *Saperda vestita* Say, or "Linden-tree Borer,"—*Saperda cervina* of De Jean. Plate I, fig. 2. Length, from one-half to five-eighths of an inch; color, greenish yellow, and velvety in appearance; has three small black dots on each wing-cover; antennæ as long as the body; and general form much like fig. 1. but rather more slender. Fig. 2, a, represents the larva, which is also less robust than 1, a. This insect, which twenty or thirty years ago was only found in remote localities, is now becoming tolerably common among us. It makes its appearance about the same period that the apple-tree borer does, and continues about as long; but, instead of depositing its eggs about the bottoms of the trees, it deposits them in the axils of the branches. There is not a doubt that, in the absence of linden trees, it would deposit its eggs in apple or pear. Pieces of sponge, saturated with soft-soap and tied in the axils of the limbs of trees, are recommended as a preventive. Some years ago, the city authorities of Philadelphia ordered forty-seven large Linden trees in Washington Square to be cut down, on account of the injuries they had sustained from these insects at different times.

3rd. *Saperda calcarata*, Say, or "Poplar-tree Borer." Plate I. fig. 3. Length, from eight-tenths of an inch to an inch and an eighth; antennæ, about the length of the body; tips of the wing-covers end with a sharp point; color, bluish gray, finely punctured with brown; four ochre-yellow lines on the head, and three on the top of the thorax; scutell ochre-yellow, with irregular markings of the same color on the wing-covers. It possibly may be an introduced species, as no reference is made to it in the *Melshiemer Catalogue*. The figure is made from Say's description, as I have not access to a specimen. It is only introduced here on account of the character given it by Dr. Harris. This insect is rather rare yet in Pennsylvania, but is more common in some of the Eastern States, especially in Massachusetts, where, with other insects of the same character, it has been very destructive to the Lombardy poplar trees. It is the largest species we have in this country, and seems to be allied in habits to the European species,

carcharias. It is liable to attack other trees, as well as the poplar, and ought to be looked after in good time.

4th. *Saperda* (*Compsidea*) *tridentata*, Olivier or "Elm-tree Borer." Plate I. fig. 4. Length, five-eighths of an inch, more or less; color, brown, with a tint of gray; antennæ, scarcely as long as the body; a three-toothed or three-branched stripe on the outer edge of each wing-cover, of a yellowish or a rusty-red color; sometimes with blackish spots and stripes on the thorax, and also upon the wing-covers; very variable in size, and colored markings. The grubs resemble the larva of other *Saperdas*, and are scarce three-quarters of an inch in length. This insect appears in vast numbers in some localities, but is not so general yet in Pennsylvania. Indeed, I have not found more than half-a-dozen specimens in so many years; but I received a small collection of insects from Missouri about a year ago, in which there were quite a number of them. In Massachusetts, however, they seem to be very common, having on one occasion caused the destruction of nearly all the Elm trees on Boston Common. The grub, which is similar to the apple-tree borer, only a little more flattened and less in size, operates mainly between the bark and the wood,—not penetrating very deeply into the wood, but entirely loosening the bark, and thus destroying the tree. As each female is capable of depositing about one hundred eggs, and as the majority of these insects are usually females, it will become apparent that this insect has the possibilities of being a destroyer of any tree it should attack, and it is mentioned here only on account of those possibilities, for as yet it has not been identified with the destruction of fruit trees. It may be necessary to state that these insects do not uniformly appear and disappear at the period heretofore stated; they are sometimes a week or two earlier and later, according to the state of the season.

5th. *Saperda* (*Oberca*) *tripunctata*, Fab. or "Blackberry" and "Raspberry Borer." Plate I. fig. 5. Length, about half an inch; form, cylindrical; color, deep black, except the forepart of the breast and the top of the thorax, which are a rusty-yellow; two elevated black dots on the middle of the thorax, and sometimes a third dot on the hinder edge close to the scutellum; antennæ, moderately long. Fig. 5, a, the larva, a whitish grub, cylindrical in the middle, and thickened towards the end; b a section of the raspberry, showing the manner of girdling by the insect, where it deposits its egg. After depositing the egg at 1, in an incision previously made, it in some manner pushes it down to 2. I give this upon the authority of Mr. M. Zahun, of this city, who says he has watched the operation, and who also alleges that there is where the vine breaks off. This insect is a near relative of the *Saperdas* before-named, and formerly belonged to that genus; but, as it not only differs from them in its form and its habits, but also in its periods, it has been formed into a new genus, there being several species of them in this country. The larva bores into the pith of the raspberry. It finishes its transformations about the end of July, and deposits its eggs in the beginning of August. When the insect issues forth from the stem, it bores a hole, which so much weakens it, as to break it off by the slightest wind or by its own weight. I have seen the raspberry-bushes broken off just as farmers break off broom-corn, leaving the tops suspended. As the grubs of these insects remain in the stem of the raspberry, feeding on its pith during the greater part of the year, those so infected, although they may bloom, will not fruit, or will produce a very small and inferior kind. I have four species of them in my collection, and therefore the one that infests the blackberry may be different from the one that is found on the raspberry. I know no remedy against them; but, in the language of Dr. Fitch, would say, that, "To our nurserymen," and, I might add, fruit-growers generally, "it obviously belongs" to discover a remedy, "as they enjoy opportunities for observing it, such as belong to no other profession."

6th. *Rhagium lineatum*, Olivier; or "Pitch-pine Borer." Plate I. fig. 6. Length, from five to seven-tenths of an inch; color, variegated with reddish ash and black; antennæ as long as the head and thorax; the thorax is cylindrical, but swells out in the middle into a sharp-pointed tubercle or spine on each side; the wing-covers are wide at the base, and taper towards the ends or apex, coarsely punctured, between smooth, elevated, longitudinal lines. The larva of these beetles are found in immense numbers in pine trees, getting immediately beneath the bark, and causing it to fall off in large pieces, thus entirely killing the tree. The beetle is matured before winter sets in, but does not leave the tree until spring. I have introduced it here because it is becoming more common in this locality every year, having been brought hither, no doubt, in unbarked pine spars. In the absence of its native tree, it is liable to attack our ornamental pines. A large European species has been very destructive to the pine forests on the Continent of Europe. In the absence of pine trees, there is a possibility it might attack fruit trees instead.

7th. *Clytus flexuosus*, Fab. "Locust-tree Borer." *Clytus pictus* of Drury, *C. robinia* of Forster. Plate I, fig. 7. Length, from three-quarters of an inch to an inch; antennæ, in the males fully as long as the body, and in the females less; color, velvety black, ornamented with transverse yellow bands, of which

there are three on the head, four on the thorax, and six on the wing-covers; the third bands on the wing-covers united, when perfect, form the letter W, or a near approach to it; the legs are a rusty-red or brown. The females deposit their eggs in the crevices of the locust bark in the month of September, dropping seven or eight whitish eggs at a place. Fig. 7, *a*, is the larva, which during the first six months bores principally under the bark, but after that period it bores into the solid wood in an upward direction. Fig. 7, *b*, is the pupa or quiescent state of the insect. As a general thing, these insects come forth from the pupa in August, and feed on the pollen of flowers during that month and the following; but I have known them to come out of wood lying in the cellar, in the months of April, and May or June. I have also found them in hickory and white-oak, and have known them to be very destructive to hoop-poles of those kinds of wood. As these insects usually pair and deposit their eggs upon the locust tree in the month of September, therefore wood or hoop-poles cut *before* that season would be less liable to be destroyed by this borer, than otherwise.

8th. *Arhopalus fulminis*. Fab. A "White-oak and Hickory-tree Borer." Plate I. fig. 8. Length, about the same as the foregoing, and in general shape resembles it very much, color, velvety black, with whitish-ashy marks upon the wing-covers and the thorax, leaving a large black velvety spot upon the centre of the thorax; antennæ, less in length than the body. Not very common. Found in Lancaster County, though usually in remote districts. It is allied to the genus *Clytus*, from which it has been separated.

9th. *Hylotrpes bajulus*. Lin. A Pine and Fir-tree Borer. Plate I. fig. 9. Length, about three-quarters of an inch; color, rusty black, with whitish downy spots on the middle of the wing-covers; antennæ, only of moderate length; thorax, almost circular, with two polished black spots upon it; wing-covers, coarsely punctured; form, flattish. The grubs of this insect are exceedingly destructive to pine and fir trees, and also to the timbers of houses. I have observed great numbers of these insects at intervals for the last fifteen years, even in districts where no pine was growing. These may have been brought thither in lumber from the pine regions; but appearing so uniformly for so long a time has led me to suspect that they also attack other trees; and if our fruit trees are not in danger, at least our ornamental trees are, especially if they be pines. They come forth from the pupa in the months of June and July generally, but I have found them earlier, in company with *Clytus fleroxus*, and suspected that, with that insect, they had come out of a lot of condemned hickory hoop-poles which had been cut and piled in my cellar for firewood.

10th. *Elaphidion atomarium*. Drury. "Oak-tree Borer." *E. marilandicum* of Fabricius. Plate I. fig. 10. Length, from an inch and a quarter to an inch and three-eighths; color, dull brown, sprinkled with gray spots; antennæ, longer than the body in the males, and about the length of the body in the females; the wing-covers are terminated with two small spines on each. It lays its eggs in July in or near the joint of a leaf-stock near the extremity of a branch; and when the grub is hatched, it penetrates the centre of the branch towards the body of the tree, devouring the pith and forming a cylindrical burrow. The mature insect comes forth in June and July. Twenty or more species are found boring into various kinds of trees. Becoming very common. In the absence of oak, should not be surprised to see them take to the apple and pear as the Saperdas have done.

11th. *Chion garyanicum*. Fab. A "Forest-tree Borer." *C. quadrispinosis* of Haldeman. Plate I. fig. 11. Length, about one inch; antennæ, in some males twice the length of the body; color, hazel, with a tint of gray; a short spine on the middle of each side of the thorax, and two spines on the end of each wing-cover; an oblique yellowish band across each of the wing-covers; form, slender and cylindrical. The grubs cut long galleries in the trunks of the trees in the direction of the grain of the wood, and come forth as beetles in May and June, and even as late as July. Becoming more numerous every year. It is partial to the hickory tree, but doubtless would also attack others.

The foregoing are a few of the long-horned *Coleopterous* insects, or "Capricorn Beetles," that bore into wood and are injurious, or are liable to become injurious, to fruit trees in general, and to apple and pear trees in particular. It must be evident, from their habits, that whilst they are doing us the greatest injury, they are entirely secluded from our vision, being in a grub form in the trunks and branches of our most valuable trees, and that the application of a remedy, if one were known, would be a difficult thing to make available. If we learned to *know* these insects, and the periods at which they make their appearance, we might, perhaps, keep them at bay for a short season by vigilant watching, and drenching the trees once or twice a day with a shower of soap and tobacco juice through a hand-engine. It occurs to me that the *Ailanthus* is a tree that is comparatively, if not entirely, free from the infections of insects; and also,

that whilst it is in bloom, the ground under it is strewn with *dead* insects, especially flies. A decoction of the *Ailanthus* has been beneficial in removing *aphides*, *rose-bugs*, and other "bugs," and therefore might be beneficial as an antidote against the *Capricornus*. But where a fruit-grower has a large number of trees, the attempt to drench or syringe all of them would involve no small undertaking in time and material. As these beetles are all night-fliers, therefore pine-knot torches or small bonfires kept burning in the vicinity of fruit trees during the season in which they lay their eggs, would draw many of them into the flames, and thus destroy them. Entomologists sometimes suspend a lamp, surrounded by a glass globe, over a large tub, or other vessel, of water, in order to capture insects for their cabinets. The insects fly against the glass, attracted by the light, and fall into the water. This is suggestive as a remedy, but, like the torch or bonfire, it involves the destruction of both friends and enemies. As an evidence that turpentine or many other pungent mixtures can have very little effect by their smell alone on these *Capricorns*, a large number of them seek the *Pitch Pine* trees as their favorite resort, and only attack other trees in the absence of them.

Let any amateur visit the collection of birds in the Academy of Natural Sciences in Philadelphia, and he will be struck with astonishment at the large number of species belonging to the families of woodpeckers that are scattered throughout the world. These all perform an immense amount of labor during the year, in ferreting out and destroying wood-worms and grubs of kindred species. When in the silent forest, our ears are saluted by the monotonous music of the "woodpecker tapping the hollow beech tree," "we may know by the sound that a *larva* is near."

TERRACED SLOPES.

BY WALTER ELDER, PHILADELPHIA.

That a neatly terraced slope is one of the masterpieces of the gardener's handiwork, all will admit. I have made several, and seen many others; but, generally speaking, they are appropriated to a wrong use,—that is, of making vineyards of them. I have never yet seen one of them wholly succeed. The causes I attribute to the failures are: first, the vines naturally send out many surface-roots to a great distance, which gather nourishment from night-dews and slight showers; but here they must strike deep, as there is but little surface space. Second. The grass on the banks attract a great quantity of night-dews, which hang on it like crystal beads until late in the morning, the vapor of which so moistens the air that surrounds the vines, as to cause the *pollen* to clog in the *anthers*, or it is scalded by the sun while it is yet moist, and but few berries set on the bunches, and many of them with black specks, which cause them to decay before they are full-grown; and it is rare that a perfect bunch is produced, except on the vines at the ends of the terraces, or those on the upper terraces where the rocks run higher than the banks above them. Third. The want of a current of dry air down the slopes, to lick up the dews at an early hour in the morning, and carry off the moist vapor and soften the radiance of the sun. I consider this the chief cause of the fruit not setting, as there is nothing more essential in the culture of the grape than dry air and sunshine. Some unobserving persons may think that the air is as dry upon a southern slope as upon an airy flat; but such is not the case. I know of a vineyard upon a southern terraced slope, immediately west of a wood of tall forest trees, and the dews remain both upon the vines and the grass until ten o'clock in June; and, although the vines grow thriftily, the fruiting process is almost a failure; and who that is conversant with the nature of the grape-vine can be surprised at it?

The most appropriate use a terraced slope can be put to, in my opinion, is to plant it with flowering shrubbery, roses, and chrysanthemums. The early blooming kinds and roses will flower a fortnight earlier in spring. The roses will bloom later and more profusely in fall; and they, with showy chrysanthemums, will make a beautiful fall garden; and that makes the slope a particular ornament and pleasure, both in early spring and late fall, and forms a fine contrast with other parts of the grounds. Indeed, it may be said that a place is not complete without a neatly terraced and finely decorated hillside.

The following are some of the shrubs I would plant upon the terraces: *Forsythia*, *Cydonia japonica*, *Spiræa prunifolia* and *Reevesii*, lilacs, *Deutzia scabra*, *Lonicera tartarica*, Dwarf *Philadelphus* or Mock Orange, *Weigelia rosea*, *Robinia hispida*; and upon the upper terraces, *Rhus cotinus*, *Hibiscus* or *Althea*, the Double Red and Double White do.

[Flowering shrubs have a much prettier effect on terraced slopes than many persons would suppose. Such a terrace exists on the grounds of E. S. Sanford, Esq., at Chestnut Hill, Pa., and is the admiration of all who see it.—ED.]

SKETCHES of PHILADELPHIA BOTANISTS.

BY L.

VI.—WISTAR AND MACLURE.

In honor of Dr. Caspar Wistar, Nuttall named the genus "*Wistaria*," of which the best known is the elegant Chinese Plant, originally called *Glycine chinensis*. This magnificent climber worthily commemorates the name of one who, though not a botanist specially, was an early President of the American Philosophical Society, a successful teacher of anatomy and surgery, a friend and patron of science, and contributed greatly by his *Conversaciones*, since called "*Wistar Parties*," to incite and nourish that love of science which has become a peculiar feature among the intellectual men of Philadelphia.

Dr. Wistar was regarded in England and America as one of the first medical authorities of his time. To his exertions and distinguished position, combined with his popular manners, the medical schools of Philadelphia are much indebted for the high position they have attained. He deceased in 1818, in the fifty-seventh year of his age.

A cutting from the first Chinese *Wistaria* brought to England is now growing in the Horticultural Society's grounds at Chiswick, trained upon walls eleven feet high, where it occupies a space three hundred and seventy-five feet in length,—a glorious monument to the fame of him from whom it was named.

The name of William Maclure, the philanthropist, and friend of science, and advocate of the universal diffusion of knowledge, the *Maclura aurantiaca* will hold in remembrance as long as the beautiful Osage Orange shall spread its glossy foliage on the banks of its native Arkansas, where, unsurpassed in richness and beauty by any other native of our woods, it hangs out its green or golden fruit, or miles of hedges stretch far away over the broad prairies of Illinois, "boundless and beautiful."

"Maclure was eminently philanthropic and benevolent, and expended very largely of his vast possessions for the general benefit of mankind. He believed that knowledge and intelligence are the true sources of human happiness and well-being; and, acting on this creed, he was ever ready to encourage and foster institutions for the diffusion of knowledge. He entertained the idea of setting up a great school or university, in which every branch of natural science was to have been taught."* In this opinion he was correct, if the term knowledge be considered as including that higher intelligence which "cometh down from the Father of Light" and leadeth into all

truth. Knowledge, sanctified, can enlarge the domain of human happiness; but

"they who know the most
Must mourn the deepest o'er the fatal truth;
The Tree of Knowledge is not that of Life.
Philosophy and Science, and the springs
Of wonder, and the wisdom of the world
I have essayed, * * *
But they avail not."

Maclure loved the Academy of Natural Sciences because its objects were in harmony with his views of benevolence and the universal diffusion of knowledge. To his munificence it is indebted for its present existence and prosperous condition. Like Peter Collinson, he was a successful London merchant. He resided for many years in Philadelphia, and was elected President of the Academy to the time of his death, a period of more than twenty-two years. He made a geological survey of the United States, a description of which was published in 1809, and proves him the pioneer of American Geology. This thin octavo, I well remember, brought me, when a boy, many an hour of quiet pleasure, as I scanned his descriptions of the primitive transition, secondary rocks of Pennsylvania, though I longed for something more definite than vague terms such as Greywacke, Schist, &c., applied in the then infancy of the science to the formations for which our Rogers has at length found a nomenclature in his massy volumes, at once simple and beautiful.

VISIT TO FOX MEADOW.

BY GRAPTOLITE.

The "Fox Meadow" Gardens are situated on the Harlem Railroad, about 25 miles from New York City, near Hart's Corners Station. Grape-culture under glass, for market purposes, is the chief feature of these gardens, and, under the direction of Mr. John Ellis, the skilful manager, a high degree of success has been achieved. The grape-culture has not only attracted much attention, but the unique and graceful articles from the pen of Mr. Ellis, published in various horticultural journals, under the signature of "Fox Meadow," have won for the writer a good deal of reputation as a practical, sensible gardener and a keen and original thinker. A visit to Fox Meadow will well repay any one who is interested in good gardening and good grape-culture. The estate is a large one, comprising some three hundred acres. The gardens occupy twenty-five acres. The grape-houses are about twelve hundred feet long, all lean-to houses, built in a very plain, economical manner, yet so constructed and elevated on terraces, as to form very beautiful objects in the landscape. They are all forcing-houses, and almost the entire crop of grapes is cut and sold before the

* A notice of the origin, &c., of the Academy of Natural Sciences of Philadelphia, by W. S. W. Ruschenberger, 1852.

first of July. The Black Hamburg and Muscat of Alexandria form the chief part of the stock of vines. The borders are very large, (inside and outside,) and are elevated on terraces and very thoroughly drained. Peat, leaf-mould, and well-rotted manure, with good sod, were freely used in the composition of the borders.

The most striking peculiarity in the condition and management of the houses is this: the vines are planted only two feet apart, and are worked on the short-spur system for three years, when Mr. Ellis purposes (and has commenced) to cut down every alternate vine nearly to the border, in order to break some dormant eyes and get a new cane as directly from the root as possible.

Mr. Ellis argues, that when a vine has been fruited on the short-spur system for three years, and has consequently been much restrained in its wood-growth, it becomes stunted and inactive, ceases to form new roots, and hence a decline in its fruiting capacity must ensue, and has been observed in these houses. The idea is to cut down the vines, under the circumstances, and to give them time to make new wood and new root-growth, and to elaborate the power needed for hard forcing by one year of rest. The new canes produced after this plan, from five year old roots, are very fine, running, of course, to the top of the house, (thirteen feet,) and of large fruiting size; but we believe Mr. Ellis does not propose to fruit the new canes the whole length of the rafter the first season after renewal, but to gradually fruit and spur it, according to circumstances.

This method of planting two feet apart, and this alternate renewal system, is somewhat similar to Mr. Bright's proposed plan of planting and renewing the canes, as Mr. Bright renews his canes every other year, (after every fruiting season,) and Mr. Ellis spurs his vines for three years, and then renews the entire canes. Mr. Ellis thinks he can get more fruit from his vines on this plan, in a given time, than Mr. Bright can, and if not so large on the old canes, it will be of higher quality. Mr. Bright, we believe, contends that cutting down the cane every other year will keep them in better health and vigor for a longer period, and produce annually as many grapes, in a house of given size, as can be produced on the spur system, and of monstrous size of berries and bunches, and the finest quality.

The marked features of all Mr. Ellis' operations are practical good sense and economy. We obtained many useful hints from his well-stored mind, but we forbear to state them. Mr. Ellis has in press, and will shortly publish, an extended work on the Construction of Vineries, Orchard-houses, &c., with practical hints on the formation of vine-borders, vine-culture, notes on fruit trees, &c., &c.,

adapted to popular use. This work will be profusely illustrated with engravings of vineries, plans of borders, heating apparatus, &c. Mr. Ellis is decidedly in favor of inside borders for vineries; but he makes them very large, filling the whole inside of the house, and has some new and ingenious suggestions upon drainage, ventilation, etc.

We feel confident that the work will be one of much value to pomologists. A day at Fox Meadow Gardens is a day full of instruction and pleasure; but a book from the pen of "Fox Meadow," the author, will be like the essence of many days of observation and pleasant talk.

[We received, and insert this article with great pleasure, on account of some circumstances that we happen to know, but which do not "appear on the record." We are personally acquainted with our correspondent, and know that he is a great rival of "Fox Meadow" in grape-growing, and this tribute to his opponent is as generous, as we know from report "Fox Meadow's" excellent practice deserves. It reminds us of a story we once heard related by a friend of Nuttall, the Botanist. When Nuttall was in Arkansas, then a wilderness, a war broke out between the Creeks and some other tribe of Indians. In the midst of the battle, the ammunition of the opposing party gave out, and they prepared to run. The Creeks, however, sent them a message, that if they would only stay and finish the fight, they would share their powder with them. It was agreed to. Blankets were spread, the powder poured out, and scrupulously divided; when the tug of war again commenced, and the Creeks came off signally victorious.]

When we see, as we sometimes do, the petty squabbling which some writers indulge in, in the columns of several of our agricultural contemporaries, we almost blush that we have ever written a word in favor of the peaceful influence of horticulture,—doubting whether murderers do not sometimes wear flowers in their button-holes—though Taylor says they do not—and have almost a feeling of envy toward the generous manliness of the untutored savages in the anecdote we have narrated.

A few such pleasant instances as our present correspondent furnishes will do much to restore our weakened faith in the true principles.—ED.]

HOT WATER FOR INSECTS.

BY W. H. DENNING, FISHKILL LANDING, NEW YORK.

On reading in a former number of your magazine the receipt for removing insects from plants by a warm bath, I could not help exclaiming "Eureka! away with the abomination of tobacco smoke, sul-

phur and all the evil smells destroying the sweetness of our Greenhouses for days and weeks, and what fools people are not to think first of simple expedients." Proceeding forthwith to the Greenhouse I summoned an assistant. Water was easily procured from a boiler, carefully graduated to 130°, and a rose tree immersed. I held the watch, and 4 seconds having elapsed, the tree was removed. I eagerly looked for scalded aphids, spiders, &c., but an unusual animation seemed to indicate their enjoyment of a warm bath.

Something is wrong! try another dip! and longer time. Tried 1 minute; same result! tried 5 minutes, same result! tried water at 140°, no difference. Not wishing to scald my plant I gave up the experiment. Seeing the receipt repeated in your October number, I would like to know where and how I was wrong in making the experiment? The bugs died at a temperature of 200°, but I think the plants would go and do likewise.

[The observations of our correspondent only tend to show that the same fire that would render an apple soft and juicy, makes the potato dry and mealy. This is owing not to the fire that roasts, but to the different natures of the subjects roasted. That hot water will destroy insects—as a general rule—is a fact within our own experience,—and is also attested to by numerous correspondents in private letters to us, as well as in some communications that have appeared in our journal. Our correspondent's failure cannot affect what has been done by others, or the principle by which it has been accomplished,—at the same time it seems inexplicable, and we hope he will continue his experiments so as to account if possible for the failure or otherwise.

If it were found that under some circumstances certain insects had the power of passing uninjured through a degree of hot water, that would under other conditions prove fatal to them, the water might be made greasy, as most insects breathe through very fine external pores, which grease would easily clog up; should they escape the hot water it would only be to die of suffocation.—Ed.]

EFFECT OF DEW ON GRAPES.

BY E. A. RIEHL, BOONVILLE, MO.

In the October number of the *Gardener's Monthly*, I find an article on the culture of the grape on Kelly's Island, in which the writer attributes the success there attained to the absence of fog and dew, and ask the correspondents of the *Monthly* to give their views and experience on the subject. Although I am not on the list of your correspondents, yet I will take the liberty of giving you my views and experience, and you may dispose of them as you think proper.

I have for many years been of the opinion that two things were essentially necessary for the healthy growth of the grape, namely: Natural, or artificial protection from dew, and thorough drainage. The reasons for entertaining this belief are these. Some ten years ago my father tried some experiments on three vines of the Isabella, planted on the east side of the house. At first they were trained close to the wall where they would be protected from dew by the projection of the roof, and while grown thus they bore regular and fine crops of grapes, but subsequently they were permitted to run on some framework so as to make a kind of arbor in front of the house, and where the dew would fall on the leaves, after which the grapes invariably rotted, both on the arbor and under the roof and on the wall, and I have observed the same thing in other localities, thus showing that it is not the fault of the soil or climate aside from dew; besides why is it that grapes do so much better when allowed to run on large trees? Not because they are not pruned as I have known some to contend, but because the foliage of the trees keeps the nightly dew from the leaves of the vine.

I have always noticed that here in Missouri, wherever the grape succeeds it is upon land that has thorough natural drainage, and if any part of the vineyard is in a spot so situated as not to have good drainage, the grapes will generally rot while the balance of the vineyard is perfectly sound. We can also see the same thing exemplified by noting the results of different years, and I think this has been one of the best to prove my opinions to be correct, for while in ordinary seasons more or less grapes are affected by the rot, this year they have been totally exempt therefrom, and the reason is evidently the unusual dryness of the season and but very little dew having fallen after the first of June.

Such are my views on this subject, and I give them for what they are worth, and should any one be led thereby to investigate the matter more thoroughly than I can do, and succeed in discovering the true cause of rot and its preventive, I shall be amply repaid for writing this.

[We should be glad if all our readers would consider themselves "on the list of our correspondents;" especially such as are gifted with such excellent habits of observation as Mr. Riehl's concise and suggestive remarks show he possesses.—Ed.]

"LEAD US NOT INTO TEMPTATION."

BY N. S. N., COLUMBIA, TENNESSEE.

We are so constituted as to be compelled to rely upon each other for much we know and do, then how fervently should we pray not to be led into temptation by those in whom we trust and confide. In your

indispensable Monthly, you and one of your contributors intimate that budding and grafting the peach on the plum will avoid the ravages of the borer. If this will accomplish an object so much desired, the discovery will prove invaluable. But the question is, will it prevent the ravages of the borer? We say from actual experience it will not. Four years ago, we saw the same remedy published, and hailed the suggestion with delight, and proceeded immediately to test its efficacy by having some 30 or 40 peaches budded and grafted upon a native hardy plum; they succeeded finely and grew off rapidly. We were delighted with our trees, until the time came when they had to be transplanted, when to our utter astonishment, we found them literally alive with the borer-worm from one to eight in each. They are now beautiful pyramids, but they have been more troublesome to keep clear of the borer-worm than if grown on peach stock, from the simple fact, they were planted below the union of the peach and plum, in which enlargement they seem to congregate in quantities, and out of which, it is more troublesome to expel them. They do not stop here, but extend their ravages even out into the collateral roots of the plum.

We have budded some of the finer plum upon the same stock, and they have shared the same fate.

We might say more upon this subject from our experience, in cultivating the trees and eating the fruit; but it would occupy too much of your paper. But if any other information is desired, the roots of the trees remain as evidence of the truth of the foregoing remarks, and ready to communicate the ravages the borers have made upon them. If this suggestion succeeds, it must be upon a different kind of plum from any we have here.

[Our note to "Alpha's" communication, had reference, as it will be seen, to the curculio or plum-weevil. Grafting the peach on the plum cannot of course be any remedy against the plum-borer.—ED.]

MILDEW.

BY J. N. JONES, CHARLESTON, S. C.

Being interested, some years ago, in the subject of mildew on grape-vines and other plants, I made some investigations under the microscope, which altogether changed my views on the subject. I had always considered mildew as a disease of plants, or, at least, as a cause of disease; regarding it as a parasitic fungus, feeding upon the sap, obstructing the respiration, and destroying the vegetable tissue. I observed, however, that before the fungus made its appearance, and before any trace of it could be observed under a high magnifying power, the foliage in parts, and sometimes entire leaves, put on a peculiar glazed appearance, evidently caused by the exu-

dition of some gummy or viscid matter oozing out from the stomata, gradually spreading over the surface, and drying in the form of a thin pellucid pellicle, scarcely distinguishable by the naked eye. Upon, or under, this pellicle, after some days, the vegetation of the fungus was distinctly observable in the form of fine threads ramifying in all directions, exactly as mushroom spawn runs through a "brick." A low magnifying power of two or three hundred shows the object beautifully in the form of most delicate lace-work. Fine particles of dust frequently adhere so thickly on the viscid surface, as to interfere with a good view of the object. In a few hours, under favorable conditions, little globular bodies may be observed forming all over the net-work of fibres. These burst through the thin layer of extravasated sap "coming up" very much like a fine crop of mushrooms. On twirling an affected leaf in a tumbler of warm water, the gummy matter dissolved and carried with it the fungi, root and branch.

The conclusions deduced from these facts seem to be, that mildew is not a parasite, in the proper sense of the word, but rather a scavenger decomposing and changing into another form the excrementitious matter, or whatever it may be, thrown off by the leaves. Mildew cannot exist upon a healthy vegetable surface; but wherever decomposition is going on, there mildew will be found in some form or other. The unhealthy exudation, from the surface of a leaf, of this viscid matter, which dries and, no doubt, decomposes on exposure to the atmosphere, forms a proper food for the mildew. The stomata, or pores of the leaf, being stopped up, it is impossible that healthy respiration can be resumed until the surface is perfectly cleansed. The cause which produced the overflow of sap (if I may so term it) may have been transient; but as long as the pores remain closed, it is impossible for the plant to grow healthily. The tissue of the leaf or fruit becomes unhealthy, under such circumstances, merely from suffocation, as it were.

The application of lime or sulphur may cause the destruction of the fungus by acting upon and purifying the viscid sap. Possibly, however, the plentiful use of warm or even hot water, where it can be used, might be quite as efficacious.

[It is, perhaps, needless to observe that we take precisely the same view of the question as Mr. Jones does. In the time of Linnæus, there was an obstinate controversy among the scientific men of that period, whether or not spontaneous generation of some of the lower orders of plants and animals ought to be received as a part of science. The great man, in his *Principia Botanica*, combats the idea by observing that it would be quite as philosophical to suppose that the horse or the elephant might spring

spontaneously into existence as any of the lower forms of animal life. He inferred that the rule that governed the highest developed form applied equally to the lowest in the same class.

We apply the same rule to the fungus tribe. In all the larger forms we well know that they grow only on decaying organic matter, and that this is the case up to the limit of our visual perception of them, and where the microscope must be called in to aid it. Why should a new rule begin merely because we cannot see the operation?

[We must confess that, in common with most men who like to use the faculties they are blest with, make their own observations, and do their own thinking, we have met with facts that seemed to stagger us in this view. A few years ago, we noticed a peculiarity in the bark of a Scotch Maple; and, on cutting off a piece, perceived the mycelia of some fungi spreading through the apparently healthy tissue. Not being able to reconcile the phenomena with our views, we sent the specimens, through a friend, to Dr. Curtis, whose knowledge of this department here is probably not second even to that of Mr. Berkely in Europe. He replied that he thought the bark must have been previously diseased. A closer investigation afterwards proved that this was the case. The tree had been transplanted some years before, and had never been in vigorous health since. The bark on the south-west side, exposed to the full sun, had died first, showing that an evaporation the mutilated roots could not supply, had taken place from it, and caused the tissue on the other side to fall a prey to disease, on the heels of which, mildew, we saw followed.]

We have no doubt but that the rule holds good in all instances.—Ed.]

TARTARIC ACID AND POTASH IN GRAPE JUICE.

BY WILLIAM BRIGHT, PHILADELPHIA.

A few words in reply to Dr. Hayes, and others, in respect to the use of tartaric acid and potash, as special fertilizers for the grape, may not be uninteresting.

My idea of the matter is, that organic acids (other than the carbonic) may be employed as fertilizers, with success, to heighten the flavor of fruits; and that the tartaric acid, in combination with potash, in the form of the bi-tartrate, is of great service in grape culture. I have never supposed that the vine could be compelled to take up tartaric acid in excess, nor have I considered its effects, particularly, in reference to wine-making. My belief in the value of this salt is based upon experience in its use. It was added to the soil of the grape border merely with a view to supply one of the most important constituents of the grape in a soluble form, and not with the

expectation of increasing the quantity of crude tartar in the juice.

Some ten years ago, a number of careful experiments were tried by Dr. A. G. Hull, of Newburgh, N. Y., since deceased, to ascertain what effect, if any, could be produced upon the flavor of strawberries, by the application of various organic acids in a very dilute form, to the plant beds just before and during the fruiting season. Dr. Hull tried the citric acid (lemon juice), malic acid (cider), tannic acid (tan-bark liquor), manure water, and spring water. A long report of the details of these experiments were published in the *Horticulturist*, then under the editorial care of A. J. Downing. The result was that citric acid perceptibly increased the acidity of the fruit without improving the flavor. Little attention was given to the action of malic acid, as the cider was shown to contain also tannic and gallic acids. Of the tannic acid, Dr. Hull said:—

"It must be conceded, that a free application of this acid has produced *unequivocal effects*; that it has surpassed all competing substances, in creating *quantity* of fruit and in imparting *flavor*."

Dr. Hull, in the report alluded to, quotes William C. Bryant, the poet (who, he says, is equally at home amid classic folios or among strawberries and potatoes), as authority for the fact, based upon his experience, that potash had proved of great service as an application to strawberries; and Dr. Hull closes his report with these words:—

"A rule of action naturally flows to the cultivator: in developing the most valuable qualities of the strawberry, he can perfect the finest fruit in abundance and richness, by selecting *potash* from among the inorganic, and *tannic acid* from the organic elements of the delicious fruit."

Mr. A. J. Downing very cordially endorsed these views, and recommended a mulching of fresh tan-bark for strawberry beds, or watering with tan-bark liquor, and the application of wood ashes, containing potash (actually the tannate of potash), and ten years of later experience by thousands of cultivators has confirmed the soundness of these principles.

Now I look upon the application of tartrate of potash to the grape border, in the same light as of tannic acid and potash to strawberries. I am inclined to think that in the absence of tartaric acid, nature makes out to elaborate that substance from carbonic acid, or possibly from sulphuric acid. Of course we know nothing of these processes in plant life. But when the perfectly formed salt, bi-tartrate of potash is supplied to the soil in solution, I feel confident it hastens and perfects the fruit-forming power of the vine. Such has been my experience, and such is my firm belief.

I was not aware, till quite recently, that any one had doubted that the native American grapes contained tartaric acid and potash in abundance in their

juice. But it seems that it has been questioned. If our natives had been found not to contain these substances, it might have had much effect upon their wine-making qualities. In this view the following article from the *Rural New Yorker* of Nov. 3, is of much consequence to grape growers:—

"BI-TARTRATE OF POTASH is so common in the grapes of Europe as to be thought essential to the excellence of this admirable fruit. It must be equally necessary in the grapes cultivated or native, in our country. It is strange that the opinion should have been originated that this salt is not to be found in our grapes, excellent as they are for fruit and in the wine manufactured from them. It is gratifying to know that the matter is already settled right.

"In the Patent Office Report for 1859, on Agriculture, are two papers from two distinguished chemists on this subject. The first is from Dr. JACKSON on p. 57, and the second from Prof. ANTISELL, on p. 59.

"Dr. JACKSON examined the juice of thirty-seven forms of the grapes in cultivation, and found tartaric acid, without which the tartrate cannot exist, in every one of them, varying from six-tenths of one per cent. to 1.9 per cent. The latter amount was obtained from the Clinton and the Bartlett grape, near Boston, and the former from the Sweet Water and the Bull's Concord seedling. Even two per cent. was obtained from No. 35 of Weber, on page 68. The average of the whole is more than one per cent., an adequate quantity.

"Prof. ANTISELL found tartaric acid in the Catawba grape and the salts obtained from it, in Green County, Ohio. Some salts from grape juice were sent to the *Rural New Yorker*, which seemed to contain the same.

"It is obvious to remark, that as potash is one of the ingredients of the bi-tartrate, there should be the adequate supply of potash for the grape vine to feed upon, as its roots will take it readily from the earth. Only a small quantity is needed, which will be found in the best vegetable manure, or may be easily supplied from wood ashes."

THE EMPLOYMENT OF CREEPERS IN HANGING VASES, BASKETS, &c., FOR DECORATION OF GREENHOUSES.

(Translated for the Gardener's Monthly.)

BY A. F., PITTSBURG, PA.

The handsomest ornament of our orangeries and greenhouses consists of hanging vases and baskets, in which are cultivated plants with long delicate stems, which luxuriate around the suspended vessel, and throw out above and below it their rich stalks or shoots. There are many plants, especially epiphytes or parasites, which cannot be well grown in ordinary garden pots, whose beauty cannot be displayed to perfection in another way, for by this means, the requisite material and situation can be readily furnished. The following short review of the culture of these plants, which from experience are known to succeed best in the different kinds of green and hot-houses, promises no other object than to assist gardeners and amateurs in their choice and to protect them from errors therein, and mistakes in the treatment of special plants.

The *Aolus gracillimus* is a luxuriant Leguminosa, whose long shoots, covered at the time of bloom with very pretty yellow and orange red flowers, hang

down on all sides; increased as *Erica*; grows best in black mould and sand; greenhouse. The *Calampelis* (formerly *Eccremocarpus*) *scabra* grows well and produces a mass of fine orange-red blossoms for a long time. The *Campanula fragilis* suits for small vases, has pretty light blue flowers and long slim shoots, and succeeds well in a mixture of leaf and garden mould; increased by division. The different kinds of *Cereus* flourish by this culture, and produce at all times a fine effect, and particularly so when in bloom. They are very easily cultivated, and require only one rule to be observed to allow them to remain almost entirely dry during the winter.

The *Cobea scandens* produces a fine appearance in hanging vases, but requires a large quantity of rich earth. This suits well for large greenhouses where it can be allowed to spread freely, yet it must not be omitted to pinch off the ends often in order to compel it to send out laterals in abundance.

The *Dillwynia* (*Eutaxia sessiflora*) is another New Holland Leguminosa for the greenhouse, which furnished a great number of pendant shoots and small orange flowers. It is most suitable for small baskets, and when in bloom is most charming; a mixture of leaf and garden mould and sand is recommended for its use. The *Disandra prolata*, a tender plant of the Scrophulariaceæ, naturally creepers, bears numerous small star-shaped yellow flowers, is easily increased by division of the roots, and demands a very rich soil. The varieties of *Epiphyllum* hung in baskets produce often as fine an effect as *Cereus*; their culture requires no extraordinary specialty—only to deny them water in winter and water freely in summer; to be planted in good rich earth, to which potsherds, broken tiles, or bricks have been added to insure perfect drainage. The finest are, *E. Ackermanii*, *aurantiacum*, *Bridgesii*, *splendens*, *Russellianum*, *truncatum* and *truncatum violaceum*. Among *Fuchsias* are many, which are naturally hanging plants, and peculiarly adapted for the use of vases affording a striking and agreeable display.

A well grown *Hardenbergia* (*Kennedyia*) *monophylla* makes a fine show, yields a mass of spikes, of charming blue flowers, and prefers a mixture of equal parts of leaf mould, common soil, and sand.

The *Hibbertia grossulariæfolia* is one of the most beautiful hanging plants, and desirable chiefly on account of the fine color of the under side of the leaves and pretty continuous yellow flowers: needs only common soil, and can be easily propagated from cuttings in sand. *Lantana miniata*, *crocea*, *Sellowiana*, and several others, are very pretty, especially when mixed with *Lobelia* and *Heliotrope*. The *Lobelia erinus* and other creeping varieties, either alone or combined with larger plants are very graceful. Another very beautiful plant, which suits particularly well for low

windows, or on the rafters of high greenhouses, is *Lophospermum scandens*; best raised from the seed, sown in pots in March and kept at temperate heat, but can be obtained from cuttings which have been rooted during summer in earth and sand in a well shaded frame. As the older plants usually become bare on the lower stems, it is well to provide new plants as soon as the lower leaves begin to fall off. . . . The *Lotus Jacobaeus*, bird's-foot trefoil, commends itself chiefly for small vases, and make the best show in combination with other ornamental plants, especially those of light color, with which its dark brown leaves produce an agreeable variety. It is fond of plenty of light, and must be near the glass; easily propagated from slips. . . . *Lysimachia nummularia*, though common in ditches and damp woods all over Germany, is not to be despised. It should be grown from slips in pots in the open air, and transferred afterwards to baskets, when flowers begin to show. Its rapid growth, long pendant runners, and yellow star-shaped flowers, fully warrant attention. Some varieties hang down in large trusses, whose lightness add to their beauty. . . . Many kinds of *Maurandia* deserve the same regard as *Lophospermum*, and require almost the same treatment. . . . The varieties of *Mesembryanthemum* add greatly to the adornment of vases: they should be treated like cactuses. The finest are, *M. aurantiacum*, *blandum*, *coccineum*, *micans*, *speciosum*, *violaceum*. . . . The *Mimulus moschatus* and *Nemophilla insignis*, and other varieties, yield a charming adornment. . . . The *Nierembergia calycina* blooms freely and very early, and wants a rich soil, abundance of moisture in summer and dryness in winter. . . . *Petunias* do well also when they are not allowed to become too long. The rose, *Vicomtesse Decazes*, is a most suitable plant for this purpose, particularly when care is taken beforehand to give it the right shape when growing in the pot. . . . Because *Saxifraga sarmentosa* is common everywhere, it must not be neglected for its foliage, flowers, and again its long reticulated and filiform tendrils make a really happy effect: can be readily increased from the knots where the rootlets are developed on the runners. . . . The *Sollya heterophylla* when well grown is a charming plant, whose blue flowers are very pretty. It does best in a mixture of leaf mould or turf and common soil and most easily obtained from seed because the cuttings root reluctantly. . . . For baskets, the *Torenia asiatica* is very beautiful more on account of its free bloom than its growth, which is somewhat slow. As soon as it has bloomed in the room or greenhouse it should be carried into the stove and watered sparingly during winter. Slips rooted in August in a hot bed under a bell glass bloom mostly always the whole winter. . . . Of *Tradescantia*, all the known kinds

are commended; *T. discolor* because it blooms the whole year, and *T. zebrina* for its growth and beautiful shading of its leaves: all easily obtained from seeds or pieces. . . . Most kinds of *Tropæolum* suit exquisitely, particularly *T. Lobbianum* and its varieties. The *T. Tom Thumb* does well for flat vases on pillars of terraces, balconies, &c., as also the different *Verbenas*.

For very large and extensive greenhouses, where abundance of space and light are furnished, there are several plants, such as *Passiflora*, *Clematis*, *Plumbago capensis*, &c., when in large baskets produce a striking appearance.

Should any one desire to cultivate creepers in vases, &c., it is essential to choose plants so as to make pleasing and tasteful contrasts of growth and color, and assistance cannot be so easily rendered here as the choice depends upon the sense of beauty and artistic taste. Care must be taken in transplanting small squat trailers to large baskets, where strong plants with large leaves and flowers are growing lest they be obscured, yet it is not to be denied that their beauty is often increased thereby—skilfully combining fine leaved plants with bright blooming ones—for instance, a *Tradescantia zebrina*, and a dark blooming *Tropæolum*, or a nice luxuriant *Lycopodium*, with a free blooming *Torenia*.—*Illustrirte Garten-Zeitung*.

[The names of a few favorites occur which I hope may find friends. *Cissus discolor*, *Vinca minor*, *Aeschynanthus parasiticus*, and other varieties, *Russelia juncea*, *Manettia cordifolia*, *Torenia asiatica pulcherrima*, a great improvement over *asiatica*, *Thunbergia alata*, &c.—Tr.]

THE ALLEN RASPBERRY.

BY LEWIS F. ALLEN, BUFFALO, N. Y.

In your paper of last month (November), I observe a report, purporting to be made by a Committee of "The Fruit-Growers' Society of Eastern Pennsylvania." They thus speak of the *Allen Raspberry*: "A good deal of confusion has resulted from errors in the dissemination of this plant. Mr. L. F. Allen, of Black Rock, N. Y., originally introduced to public notice two varieties, the Allen and Red Prolific, which are entirely distinct sorts. Parties here, however, have received direct from Mr. Allen these two varieties, plants nearly identical in every respect, neither of which corresponded with the description given in his circular, nor with that generally grown among our nurserymen here as the *Allen Raspberry*."

Now, the remarks of the Committee which I have quoted and italicised, would, if true, convict me of deception towards the public, about which I have a word or two to say. I have introduced to the public

the two varieties of raspberry above-named, *and no other*. They are the *only* varieties of red raspberry I ever cultivated, or now have in my possession, or which I have ever sold or sent out to the public. So my denial is as prompt and explicit as the charge, or inuendo, made in the report. The two varieties which I have sent out are as marked and distinct in their appearance and growth as any two varieties of red raspberry can be; and any pomologist seeing them together, either when growing or lying side by side in ripe canes, will detect the difference in a moment. As to my description of them in my "Circular," as the Committee call it, but which was intended to be merely rules for cultivation, a brief description only is given, which is, as far as it goes, accurate.

Since I first sent out these two varieties of raspberry, now several years ago, they have been largely sold and disseminated over the country by other persons, some of whom purchased their plants direct from me, and others to whom I have never sold a plant to my knowledge. If they have made errors or mistakes, I am not responsible for them. I trust that my denial of the fact on my own part is sufficient to convince "the Committee" who have made the report, that they themselves have fallen into an error. Many of those who have sold plants bearing my name, probably cultivate several other varieties, and amid the multiplicity of labors and laborers in the nursery at the busy season of transplanting, it would not be strange that mistakes should sometimes occur, and that one kind of plant should be sent away instead of another. I do not say that such has been the fact; but it would be no strange thing if such an instance should now and then occur.

I am happy to remark that "the Committee" have done no more than justice to the excellent qualities of the "Allen" Raspberry in their description of its growth and bearing. I cannot ask, and do not wish any better testimonial to its excellence; and will add, that the "Red Prolific" is quite as good in every particular of growth and flavor, although of different appearance. When their thorough hardiness, needing no winter covering, is added to the description, I fancy the public will look wide and far before they will find another red raspberry their superior, or hardly their equal. The "Committee" have not done so, at any rate. Some pomologists object to the numerous suckers which spring up from the "Allen" plants. That habit only shows it abundantly able to take care of its own propagation, and needs only the labor to cut them away that a patch of corn or cabbage does in clearing it from the weeds,—that labor the raspberries require to give them their full measure of bearing and perfect quality of fruit.

I have heard complaints, in some quarters, that

the "Allen" is a poor bearer; while in other quarters it is the most successful bearer that is grown. Both statements are, no doubt, true, and illustrate the fact for which I have always contended, that *all* fruits have their own favorite soils and localities, as well as the reverse. No fruit, from an apple to a strawberry, can be named to which the remark will not apply; and for proof I need refer no further than to the discussions in the several sessions of the National Pomological Society which have been held during the last dozen years. Numerous instances may be given, but the fact is too familiar with all intelligent pomologists to need further remarks.

The "Allen" Raspberry got itself sufficiently into the good graces of the above-named Society a few years ago, to be placed on their list of "fruits promising well," without any agency of mine, however. At its last session it was quite as summarily "rejected," though, it appears, under the strong protest of a minority of members. I trust the majority now feel satisfied, that in tabooing the "Allen," they have given me a sufficient punishment for my temerity in speaking, in past days, some wholesome truths about "Dwarf Pears!" Of this last I will, *en-passant*, remark, that since my Dwarf Pear articles appeared, an entire revolution in the manner of working, cultivating, and restricting the variety of pears proper to be worked on the quince has been adopted by their propagators, in which the indulgent public have saved large losses, if they have not been largely benefitted. I charge them nothing for my labor in that line, although receiving any amount of contumely for my interference.

As to the "Allen" and "Red Prolific" raspberries, I presume they will continue to grow and flourish with all who choose to cultivate them in favorable soils and localities, despite their recent "rejection." They are now so plenty and cheap, that I have ceased to advertise them for sale, leaving that for others who are specially in that line; remarking, only, that but a day or two ago I received an unsolicited order, from several hundred miles distance, for every "Red Prolific" plant I had to spare, some thousands in number, and which I very cheerfully filled. I found the fruits strangers to the public, and have made them familiar, and, with most of the receivers, glad acquaintances. With that I am satisfied.

[A neighbor of ours, from a little bed of Allen Raspberry, under, we believe, one hundred feet square, sold "over" two hundred dollars worth of fruit, as he informed us at the fruiting season. His soil is low and damp. On high and dry grounds we have noticed a tendency to produce imperfect flowers. For our part, we should not like to spare the Allen from our collection.—Ed.]

DWARF PEARS.

BY N., PHILADELPHIA.

T. G. YEOMANS, of Wayne County, who has a large orchard of Dwarf *Duchesse d'Angouleme* trees, sent a barrel of selected fruit of this variety to Philadelphia a few weeks since, and it was sold for \$35 63—and it is said the purchaser trebled his money in retailing them out. To show the size of the pears, we may mention that it took but 125 pears to fill the barrel. They weighed 127 lbs., or over a pound each. The best eleven barrels sold for over \$900, or nearly \$28 per barrel. With such prices, we can hardly wonder that, notwithstanding the danger from fire blight—which this year has proved very destructive in many pear orchards in this vicinity—many farmers are planting large orchards of Dwarf Pear trees. Of course, the above figures do not represent the average price of *Duchesse d'Angouleme* pears; they only show the advantage of growing fine specimens, and of marketing them in the best condition. The average price is about \$10 per barrel.—*Gleaner Farmer.*

It is a pity, perhaps, to spoil a good story, but the above article needs a slight correction, and the whole truth of the matter may prove useful to fruit growers. The additional facts are these. Mr. Vansant, a confectioner in Philadelphia, paid Mr. Yeomans \$200 for seven barrels of pears, one of them being valued, as above stated, at \$35 63. The pears arrived here in apparently good condition, but within two weeks afterwards, they rotted so rapidly at the core as to become almost worthless. The largest specimens, in a sound condition, could have been sold for fifty cents apiece, and if in tolerable eating order the whole of them could have been disposed of at a fair profit. But Mr. Vansant could not, in conscience, offer fruit in such a decayed condition at any price, without telling the purchaser the facts; this of course spoiled the sale, and most of the pears were either thrown away or almost given away. None of them ripened properly.

Now what was the cause of this rapid decay of the fruit? The *Duchesse d'Angouleme* is generally a pretty good keeper. Were the pears picked too soon, before they were properly ripened? was it the warm weather? was it the injury received from transportation in barrels; or some other cause, which produced the disastrous result?

Other questions arise. Can fine pears be shipped in a partially ripened state, and transported long distances, in barrels or otherwise, and then be kept with success and ripened up by fruit dealers? [Mr. Vansant, be it noted, has had much experience in keeping and ripening pears.] Or must choice pears be kept by persons skilled in the business in proper fruit-houses, and then be taken short distances to market, in small and carefully prepared packages, just when they are in eating order? It must be confessed that a large proportion of the choice pears sent to this city from New York and Boston, are presented to us by the dealers in a sadly bruised, blackened, shrivelled, badly ripened, flavorless condition. No person, un-

acquainted with the real qualities of the *Vicar of Winkfield*, would ever suppose it to be a desirable pear, if he were to judge from the specimens usually found in our fruit stores. The public all vote dwarf pears a humbug, if the fruit-growers do not, unless we can furnish them with fruit in a better condition than this. Our own idea is, that the task of keeping and preparing fine pears for market must be done by fruit-growers, and that such pears must be transported in small packages with great care, and generally only short distances. Each neighborhood must grow its own pears. They cannot, probably, be shipped and handled like apples, with good success. At any rate, the facts of the case in question will prove highly instructive to pear growers.

"NORTHERN APPLES IN THE SOUTH."

BY W. S. LANGDON, NASHVILLE, TENN.

On page 302 of your *Monthly*, I find an extract from a letter of James Magoffin, of St. Stevens, Ala., with the above caption. He states that Northern apples are found to *improve* in his climate—the "oleaginous and saccharine matter singularly increased, and the aroma greater and finer."

I am sorry that he did not inform us as to their *keeping* qualities. There may be something in the gulf atmosphere that will *improve* in this respect!

In North Alabama, Mississippi, and Tennessee, where I have had an observation of many years, I can assure you, that northern apples are in *no respect improved*, except in *color*, and there is not a single northern apple—known to be such—that *will keep through the winter*. I will give a few specimens.

Æsopus Spitzenberg, Downing says, ripens from December to February. It was on exhibition at our State Fair, in Nashville, Tennessee, the 10th of September, *dead ripe*.

Northern *Spy*, Downing says, ripens in January and keeps till June, but in Tennessee it is *never* seen after Christmas.

Yellow *Bellefleur*, November to March at the north; here a fall apple. Baldwin, ditto.

Peck's *Pleasant*, November to March. I recently heard a nurseryman offer a *dollar* a piece for all of this apple grown in Middle Tennessee, to be delivered to him on the 1st of January.

In this way I might enumerate all the northern winter apples that have been fruited in this country. Besides this defect in the keeping, only a few varieties will hang on the tree till perfected. This remark is also true of the northern summer and fall varieties. No *informed* man will now plant an orchard of northern varieties of trees.

I would be glad to hear further from southern men on this subject.

ALL ABOUT STRAWBERRIES.

BY "SUBSCRIBER," BALTIMORE, M.D.

For nearly twenty years past, I have been an unpretending amateur in the great and good cause of Horticulture, but chiefly engaged in the cultivation of plants in a small way. Having a very great passion for cultivating plants, and enjoying *real delight* in watching the progress of vegetation, the *trouble and labor* necessarily incident to the successful cultivation of plants is a *pleasure*, not diminished by the lapse of years, but decidedly on the increase with the increase of years.

Not being favored with means for cultivation in a greenhouse, I have, this season, turned my attention to the growing of hardy plants, and, as the "*utile cum dulce*" is signally and truly combined in the *strawberry*, my efforts have been especially given to the growth of that delicious fruit.

Information has been respectfully sought from some of the most intelligent and successful growers of this fruit in the country, and I now tender my warm acknowledgments to those gentlemen at home and abroad, who have very promptly and no less kindly responded to my inquiries. I have asked particularly to be instructed as to the very best and most practically useful varieties, and the most celebrated varieties in every respect, both as to table use and marketing, I have been induced to believe, must be, the "Wilson's" Albany, Austin seedling, Wizard of the North, Triomphe de Gand, and Seedling Eliza. Not having been engaged in cultivating this fruit sufficiently long, I can only speak from information received from friends who speak experimentally about them; but my friends in this case, as well as in all other cases, are gentlemen of such reliability, that I am so thoroughly convinced of the truth, the *whole truth* of what they assert, that I adopted their testimony as my own.

First then, a friend writes me about the "Wizard of the North" thus: "I did not see the Wizard in fruit, as it was in the winter when I was in England and Scotland, but, gentlemen of the highest standing in society, assured me, that the fruit of the Wizard has been known to reach the enormous size of $9\frac{1}{2}$ inches in circumference." From the very favorable antecedents in relation to the character of my friend who has thus written, and from conviction that his friends in Europe are such as any gentleman may rely on for all that is excellent, I am prepared to rely implicitly on his statements. What a size for a strawberry is $9\frac{1}{2}$ inches—truly it must be a Wizard!"

Secondly, the "Wilson's Albany" has so well established its character that nothing need be said about it, further than when a gentleman amateur or any one else, desires to have a choice collection of the most justly celebrated strawberries, he naturally and

irresistably (for the truth you know is great and will prevail) turns among the very first to the "Wilson" for a combination of all qualities that are excellent. So much only is needed for the "Wilson."

Thirdly, come the younger candidates for public favor, the *Triomphe de Gand* and *Seedling Eliza*. A reverend and kind brother in the ministry of Christ, writes me from his home, that among the numerous varieties which he has under cultivation (and, I am informed, he has 50 acres in cultivation of the strawberry), he gives a decided preference to the somewhat new, but no less noble berry, the *Triomphe de Gand*."

The successful and courteous Horticulturist, Mr. John Saul, of Washington City, also assures me, that the result of a very careful test of the "Seedling Eliza" on his part, warrants him in saying, most decidedly, that this variety is the largest and best variety of the pines now grown.

And, now, Mr. Editor, comes the last, but by no means the least in size and other excellencies, the "Austin Seedling," grown by the Shakers, at Watervliet, near Albany, New York. This, I am remarkably disposed to regard as my favorite, not only on account of its immense size (6 inches in circumference), but chiefly because it is a native of our own beloved country.

Hear the testimony given to the "Austin." I must not be understood to say one word designedly to detract from the merits of any one of these pleasant candidates for the suffrages of their growers and consumers. I intend no such thing. There are now 65 varieties of the newest and best I could lay hands on, now growing luxuriantly in my enclosure, and I am putting forth my best efforts in a test of the merits of each and all of them, and am not at all trammelled by partiality in the case. But, to the "Austin"—the "Great Austin."

A friend from the north writes me in this strain: After giving very strong testimony in favor of "Wilson's Albany," he says: "I visited the grounds of the Shakers, near Albany, in this State (New York), at the season of fruiting; and, although I saw the fruit in bearing on beds that had been permitted to run wild, that is, the old plants exhausted themselves, and the young ones ran out and covered the ground into a compact mass of plants; and they were so thick that they could not get either light or air, such was the condition of the whole plot, about a half acre; in the spring, when they cut lanes or alleys through, using the plants taken out of the alleys for a new plantation, there was a small portion of the plot, about two of the beds, that got partly drowned out (it being a little lower than the rest) during the heavy spring rains, the fruit on these beds were enormous and all large, clearly showing that the others

were too much crowded. *The fruit was fine on all, and very fine indeed, considering they had no extra cultivation. And, at that time, the earth was greatly parched up for the want of rain. The soil, being a sandy loam, the drought greatly affected it.*

I was so well pleased with the fruit that I permitted friend Miller, the Shaker Trustee, to fill my order which I had sent in *conditionally*, that is, to take the plants, provided I found the fruit to come up to my expectations. Some of the 1000 plants I have sold, the rest I have set for fruiting and propagating plants. I directed my brother to cultivate a lot of the plants. He set 100 in the spring of 1859, this spring he took up the 100 plants with a large ball of earth to each, moved them to his new place, and, notwithstanding the removal, every plant produced a quart of fruit, and I now have hundreds of hills or crowns that will produce a quart of fruit each.

The crowns which have grown this season in my garden are so large, that the leaves now measure from outside or across the hill or plant from 16 to 18 inches.

I obtained the Austin only this summer—of course I will get no fruit until next Spring.

I am confident that, with good culture, they will come up to the statement of friend Miller, that is, the fruit has been grown at the Shaker farm at Watervliet, near Albany, to the enormous size of 6 inches in circumference.

It is a Giant variety. The finest stalks are from 16 to 18 inches high, and prodigious foliage. The berries are all enormously large."

Another friend from New York has written to me lately, that the year before last he saw and handled berries grown on the "*Austin Seedling*" strawberry plant which measured accurately 6 inches in circumference. Now, Mr. Editor, this is about the size of a well grown apple. I have heard it said of a particular variety of cherry, that it took two bites before you could swallow it, but from the information received about the "*Austin*," I am fully convinced it would take several large bites before it could be swallowed without risk of choking.

[As a rule we prefer the direct experience of our friends, to that which they may gather from others; but we pass the above on account of the pains the respected author, who is known to us personally, has taken to "collect evidence" in behalf of the kinds specified.

But we would remark that parties are often honestly mistaken in their estimate of the value of any kind for general cultivation. Local circumstances have an astonishing influence on the strawberry, and granting the punctilious accuracy of our correspondent's information, some of the newer ones may yet prove unworthy of extensive culture.—Ed.]

BUCKINGHAM APPLE.

BY J. VAN BUREN, CLARKSVILLE, GA.

On looking over the proceedings of the American Pomological Convention as reported in the *Gardener's Monthly*, I notice that Dr. Warder, of Kentucky, "introduced an apple formerly known as the Buckingham, but which is now known by the name of the "Illinois Buckingham." The Buckingham is an old variety which originated in the garden of Col. John Byers in the year 1777, and was then called Queen, and was taken from Buckingham county, Va., where it emigrated into North Carolina and took the name of the county from which it was taken.

In Kentucky, 60 years ago, it was called Queen; in other States it has passed by the names of Late Queen, Winter Queen, Ox Eye, Blackburn, Merit Apple, Henshaw, and Byer's Red. In this section of country it is still sparingly cultivated under the name of Buckingham, but from its propensity to drop from the tree is nearly abandoned. Instead of adding to the present confusion in the nomenclature of fruits by clubbing old varieties with new names, we had hoped the efforts of the Society would have been directed to its simplification, and not to steal our Southern thunder for the benefit of any Northern State.

[We received the above late last month, but held it over in case any correction of Dr. Warder's remarks might be offered, in connection with the general invitation we extended.—Ed.]

EXPERIENCE OF A NOVICE IN VINERY MANAGEMENT.

BY DR. T., CHESTER CO., PA.

I send you a few berries of the Bowood Muscat. You see how well they keep. It has given me more satisfaction than any I have, ripening early with the Hamburg, and hangs the last without moulding. Syrian, Hamburg, Zinfindal, Golden Hamburg, and Trebiana, all that are left, are mouldy, and not fit to eat, whereas the Bowood Muscat is, as you see. By-the-bye, Trebiana is rather poor, somewhat resembling the Syrian, but not as large, and more acid.

My grapery has done finely this year, giving us a full supply of delicious grapes, which is very encouraging; particularly so, as I had not a single bunch from at least forty out-door vines. So I recommend all my friends and neighbors to build cheap grape-houses; for from the last few years' experience, it is the only way to have fruit to a certainty.

[The above was not sent for publication, but as exhibiting the successful application of principles to an excellent practical result, it will be so encouraging to others, that we are sure our friend will pardon us for printing it.—Ed.]

CHENANGO STRAWBERRY APPLE.

BY N. COLLINS, SMYRNA, N. Y.

In your notice of the Chenango Strawberry Apple you say you can discover no material difference between it and the Minister. Now I have them both in bearing, and they are about as nearly alike as the Rohan potato and the Hubbard Squash. The Chenango Strawberry, as I told you, originated in this county, and the Minister in Massachusetts. The Strawberry begins to ripen about the 10th of September, the Minister is full a month later. The two are somewhat similar in appearance, but yet can be easily distinguished by having specimens of both. The Chenango Strawberry was raised from seed planted many years since by a colored man named Frank. There were originally three trees in the same orchard, but one of them is dead and the others have borne abundantly the present season.

It was for a long time called the Frank Apple. Subsequently it was named the Jackson Apple; and lastly, the Strawberry, to which I attached the name of the county to distinguish it from the early and late Strawberry's of Western New York. I presume the same apples are several weeks earlier with you than with us, so that the Minister would be ripe there about the same time the Strawberry is here, which may have led you to suppose they are identical. I think if you had both varieties growing in the same locality, you would find they were not so much alike as you now think them. The shoots of the Strawberry are light yellow white; those of the other are much darker and more nearly green. The flesh of Minister is much more firm than the Strawberry and the flavor of those grown here much inferior. It does not bear as young and not near so abundantly. The Chenango Strawberry is but little known beyond this and the adjoining counties. I sent some specimens to P. Barry while he published the *Horticulturist*, and he sent for some scions, and now you will find it in the catalogue of Ellwanger & Barry, in the list of those on trial. They have the Minister and I have never heard that they thought them alike. I have no other object in sending the apples than to disseminate it, because I think that for its season it has not superior.

[If, as our correspondent says, "the two are somewhat similar in appearance, the main difference being that the fruit of the Minister ripens a month later," we submit there must be a nearer resemblance between them than between "a Rohan potato and a Hubbard squash."

Our correspondent should remember that it does not follow that because a fruit may be well ascertained to be a seedling, it must necessarily be very distinct from kinds already known.

We had no specimens of the Minister by us to

compare with the Chenango Strawberry. We only suggested the resemblance, and our correspondent's own letter shows we had good reason for so doing. As, however, he has the opportunity of comparing both together which we had not, and points out their difference, we deem his explanation satisfactory, and repeat that the specimens sent were in quality and appearance of most superior excellence, and we feel favored by the opportunity afforded us of testing them.—Ed.]

MAKING ICE.

BY BOREAS.

As I consider it almost as important that the public should be made acquainted with our failures, as well as our successes, in any experiments, I will state, that I once endeavored to fill my ice-house with ice obtained from the falling spray of a fountain. I set the fountain playing, with a rose on the nozzle, during several cold nights. The ice formed almost as fast as it fell, and I was in fine spirits at the prospect of getting my supply without the trouble of hauling it from a considerable distance and up a high hill. But when I commenced to cut it, I found it was composed of thin strata, with air between, and so soft and shelly, that it would not keep. Next season I think of making a small pond and filling it from the fountain. I find that a pond about one hundred feet square will fill my house.

[The above was received late last spring, and we have held it over till it should be again in season. As now is the time for the "ice question," it may bring out some good thing that will be of service to parties so situated.—Ed.]

ACCELERATING THE MATURITY OF CAULIFLOWERS.—A correspondent of the *Farmer and Gardener* says, in Ireland he made a slit two inches from the ground upwards into the heart of a matured cauliflower, put a piece of stick in to prevent a reunion of parts, drew up the soil two inches above the cut part, and staked to prevent the head blowing over by the wind, and the result was a head fit for market six to eight days before others not so treated.

NEW APPLE LADDER.—Split an ash or spruce pole to within a few feet of the end; then put on a ring or insert a wrought nail and clinch it so as to prevent the pole from splitting further; spread it the right width for a ladder, until near the crotch, where it must gradually curve; confine it in this shape; bore and insert rounds the proper distance and it is ready to *poke up* through any little opening, and will rest firmly against a small branch where a common ladder would often cant or twist about.—*Maine Farmer.*

The Gardener's Monthly.

PHILADELPHIA, DECEMBER 1, 1860.

✍ All Communications for the Editor should be addressed "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

TO ADVERTISERS.

☞ Copies of Advertisements, when they occupy an entire page of this paper, will be furnished to the advertiser, printed on good paper, for private distribution, at the low price of THREE DOLLARS per thousand. *Nurserymen* will find this an economical way of getting their *Wholesale Lists and Abstract of Catalogues* printed.

VALEDICTORY TO 1860.

At the close of our second volume, it is meet that we say a few words valedictorily and prospectively.

And in bidding adieu to the past, we do it reluctantly, as separating from a dear friend who has been kind and considerate towards us,—who has overlooked our foibles, and been liberal with our shortcomings, and generously credited us with the good we have aimed to do equally as if we had actually done it. Kind, generous friend, Oh horticultural public of 1860! How happy would that debtor be who, in the common commercial affairs of life, found his creditor so ready to "take the will for the deed" in satisfaction of all claims, as thou hast been in our case!

Still, if we have not done what we might, and perhaps ought to have done, we have performed at least what we promised to do. We offered a folio sheet, and gave a quarto, and subsequently heaped the measure to a neat octavo. Encouraged by public approval, as indicated by our subscription-book, we gave a costly frontispiece, occasionally colored, in addition; and in our wood-engravings we have been profuse. We have been particular in the introduction of this department, having noted, from infancy upwards, the lasting impression this style of education makes. Many of our toughest lessons in boyhood were so profusely illustrated with wood-cuts, that we have never forgotten them. To be sure, our village pedagogue employed *birch*, while the publisher uses *box*; but that makes no difference, so that the subject is made equally clear in each case.

Passing from the publisher's desk to the editorial department, we think the same result will be found in pledges redeemed and promises performed. We set out by the avowal that we should know "no North, no South;" and we have even ignored the whole Union as a geographical boundary to our sphere of usefulness. We have labored as strenuously for the cause of horticulture in Canada as for

California and Florida, or Maine and Virginia. By "shooting a little with a lengthened bow," we may make the poet truly say:

"These are our realms, no limit to their sway,
Our work, our sceptre, all who read, obey.
As far as art can reach, or artists roam,
Survey our empire, and behold our home!"

And in the general management of the paper, we have carefully avoided every thing likely to wound the feelings of the humblest, with a single eye to the accumulation of facts and figures that might have some relation to the beautiful pursuit in which we are all over the whole continent engaged; and having thus nothing to charge ourselves withal, we feel

"Like him who wraps the drapery of his couch about him,
And lies down to pleasant dreams."

And yet not long to dream; for the future, laden with hope and fragrant with success, awakens us again to action. The fragrance of morning already diffuses itself around us with the dawn of 1861, and the full light will find us as earnest as ever; here clearing away, there sowing seed, and in every direction passing what encouraging words we can to the husbandmen. Our many friends, we know, will help us—not only that part of the little pronoun which represents the publisher, by doing every thing possible to make the paper known,—but us, also, of the editorial department, by contributing every little fact or observation that may have the slightest bearing on horticultural pursuits.

"YE MAY KNOW HIM BY HIS GARDEN."

You may judge a man from the bumps on his head, from the features of his face, from his style of composition, from his handwriting, from his gait,—why not from his garden? True, gardens are generally delivered from one man to another, and so cannot express the *pro tem.* owner's soul. Again, gardens are ordered like boots at the boot-maker's, and express the owner's idiosyncrasy still less than those boots express the shape of their wearer's feet. Still, some men there be who, like Jack in his house, live in the gardens they themselves planted. And of these men we "sing." Take, as first specimen, one of your near neighbor's garden. Look at it, and tell us, can it belong to anybody but to Peter Juniper Watkinson, the eminent lawyer? There is Coke upon Lyttleton in all the shrubs; there is precision in the rectangular walks; there is system in the flower-beds; the gravel seems of the driest, the grass of the palest, and the genius of special pleading gazes at you out of a couple of China vases before the house.

Take, as a contrast, a near neighbor on the left, pretty Mrs. Wimbledon, widow of the late Mr. Wimbledon, a young and pretty widow; with a garden that looks so intelligent; with flower-beds so dash-

ing and flouncy; with premium strawberries; with altogether "so engaging a place," as people say, that many good folks would like to share it with the lovely Mrs. Wimbledon.

No. 3 is down in the hollow, old Rue, the bachelor's home. Looks very clean,—nobody can possibly say it looks dirty or slovenly. But the cleanliness is that of a ship,—the tidiness, that of a barrack,—all discipline: not the trace of woman anywhere. Evergreens predominate fearfully. Deep shade, also, bordering on misanthropy, morosity, austerity, and other similar Latin and Greek words. Reader, beware! Turn about, ascend the hill and peep in No. 4, Alphonso Galbraith's, the artist's, place. People who turn every thing into ridicule say it is like a bedstead; and so *it* is, at least in shape; so *obsquare* and so small. But a jolly little spot it is. Genius and poverty, jollity and good nature are in it. The same plants that seem to weep at Rue's, here smile broadly, and balance themselves in the sun with a graceful ease; and the pretty arbor, just looking like a temple of Venus, Bacchus, Comus, and all those full, half, and quarter gods, not to mention the quaint devices, the antique seats, the big Newfoundlander, *not* painted in iron, but alive and barking, the grape trellis, and, above all, the good taste throughout.

Nos. 6, 7, 8, and 9 of our catalogue shall not be noticed. Doctor of Medicine, of Divinity, Sheriff of the County, and Professor of Dentistry, one and all in different gardens.

No. 10 shall be the last. Plumley's that is. Don't you know Plumley? Why everybody knows Plumley, and everybody's wife particularly. His real name is Plumley Grabbitt. Dry-goods, you know. Garden made to order; the best for the money; the most complete assortment of styles; very rich and crowded; greenhouses, statues, wire-work, all sorts of things so beautifully crowded,—just like his shop-window in town. Made to be admired, and, what is worse, people *do* admire it.

Not to particularize any more, we will state it broadly: you may learn a man's bent from his garden. There is character in his garden,—also and most often the characteristic absence of character. In that case, you have the "hum drum" style of garden; the copy of somebody's copy of somebody else's copy of somebody else's indifferent original.

Yes, good reader, the garden is the mirror of the mind, as truly as the character of a nation is the reflex of the individuals composing it.

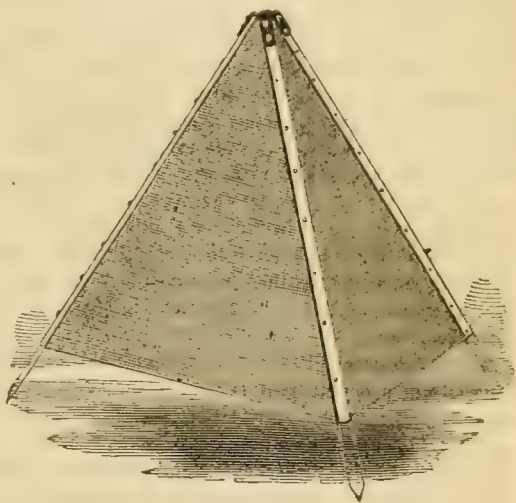
MR. RATHVON'S ESSAY.

We give in this month's issue the first plate of insects in Mr. Rathvon's Entomological Essay, colored. It is our intention, after passing it through the *Monthly*, to issue it in book form, with *all the plates*

colored; but the expense will prevent our publishing the remaining plates in the *Monthly*, colored. The price of the work will be fifty cents per copy. As the number printed will be limited, we should be glad to receive the names of subscribers in advance. A liberal discount will be made by the dozen, and to societies and others who may wish to offer them as premiums to exhibitors.

BATES' PLANT PROTECTOR.

Mr. Daniels, of this city, has left at our office a little affair, of which the following is a sketch:—



It is formed of an umbrella-like triangle, that will open and shut, the spaces between the legs being made of mosquito netting. It is just the thing to protect egg plants, tomatoes, squash vines, and other plants, in early infancy, from gramenivorous insects whose only office here below seems to be to convince the skeptical that Job was not a horticulturist.

SURFACE-MANURING.

We were much pleased with the remarks made by President Wilder, at the late Pomological Convention, on surface-manuring; believing, as it is well known from our past issues, that the general recognition of this principle will work wonders in horticultural economy.

Truly, as Mr. Wilder observed, it is no new idea; but on this there need not be much difference of opinion. The man who popularizes an idea that is really a gain to the community, deserves, at least, to share whatever merits there may be in it. From the earliest records of antiquity to the present time, there has, doubtless, been a continual succession of minds who recognized the value of the principle; but yet it is a fact, that so far as our own generation

is concerned, the leading horticultural and agricultural spirits, from Judge Buel and Mr. A. J. Downing, downwards, have been opposed to it,—and the agricultural chemists of the present day, with very few exceptions, look on it as contrary to a correct theory of manurial management. The great objection has been, that much of the ammonia is lost when manure is applied in this way, which is, undoubtedly, the case; but the corresponding advantages far outbalance this difficulty.

It is a well-ascertained fact, that the most active feeding fibres are at the surface of the soil. They avoid the light; but they approach the atmosphere as near as they can consistently with this aversion. All the fibres beneath the surface will show, on examination, a gradually increasing weakness, in proportion to their depth. It has even been suspected,—and with much reason,—that all roots of any considerable depth beneath the surface do little else than supply moisture. They are the “hewers of wood, and drawers of water” in the tree’s social system.

To “dig manure down into the soil, where the roots can get at it,” is, then, mistaken policy. That system which applies it to the surface is the most rational of all.

Too much stress has certainly been laid on the necessity of preventing the escape of ammonia from manure. Barnyard material that may have lain on some neglected surface for several seasons, and, to the unassisted senses, has lost every perceptible trace of its ammoniacal properties, is well known to practical men to be of the most value. Even those crops which are supposed to require most nitrogen—to which end ammonia is regarded as the chief minister—are found in practice to do best in “well-decayed manure.” In celery-growing, for instance, one year hotbed-dung is usually preferred to fresh; and the older the manure,—if three years,—so much the better is the resultant crop.

It is the action of atmospheric air on manure that prepares it for the food of plants. This process is best accomplished at the surface; and the best roots being on the same ground, all the best elements of culture meet under the best possible conditions of success. The great body of the soil must be looked on as rather a reservoir of water and inorganic matter, which is drawn upon by attraction as the surface loses them by evaporation and vegetable absorption.

The first preparation of the soil should be thorough. It will not retain heat and moisture unless it can be continued elastic and porous. This calls for draining, subsoiling, and, if the strata is tenacious, a thorough mixing of porous material. This once thoroughly accomplished, after-culture is deprived of much of its laboriousness and expense. An annual forking-up of the soil for the yearly crops, and a

surface-dressing of well-rotted manure, accomplishes, for half the usual cost and trouble, double what can be accomplished under the old system.

We well know that there are scores of our best minds that will smile at our reasoning,—amused, not that we recommend the practice, but that we should think it worth reasoning on at all, as practice in their hands has so successfully demonstrated its truth; but there are hundreds of cultivators who are yet incredulous, and it is not right to ask them to abandon time-hallowed practices, without showing some reason for the trial of a substitute proposed.

ACTION OF FROST ON THE QUALITY OF FRUITS.

A Connecticut friend states that pears which usually have an astringent property, are rendered of the highest excellence by a slight exposure to white frost. The Vicar of Winkfield he particularly refers to as being rendered a first-class fruit by this process. We have a neighbor who has a very large Vicar; and it has been a curious subject for speculation with us for some years past, why the fruit on some portions of the tree should be very superior, and on others so absolutely worthless; and we think it quite probable that the hint above noted affords the real reason.

The after-treatment of fruit is of quite as much importance as obtaining good kinds,—and the note of our friend is worthy of more extended observation. It is well known how frost acts in removing the astringency of the persimmon; and it is just as likely to have the same effect on the pear. Many of our second-rate pears would be really delicious, but for a slight puckering flavor. If frost will aid in removing this objection, what a valuable fruit Louise Bonne de Jersey, for instance, would be! Of course, caution will be needed, as too much frost would induce decay.

Questions and Answers.

COCULUS CAROLINUS.—A few days ago we received the following note from Mr. Robert Nelson, of Montgomery, Alabama:

“I cannot deny myself the pleasure of sending you the enclosed little bunch of a native perennial climber, which, I think, would be an ornament of the highest beauty in a camellia-house, as it could be planted in the ground in the greenhouse, and allowed to climb. Not the smallest part of its beauty is, that it keeps the berries on the vines all the winter. I have not analyzed it, as I never noticed it when in bloom.”

[Though able to name the plant for our friend, we had no idea that the plant was near so beautiful as

his specimens prove it to be. We so heartily second his views as to its value for either conservatory or open-air decoration, that we have had the annexed cut made of the specimen he sends us.



The berries are of the most brilliant glossy scarlet, and cover the plant most profusely. It will, no doubt, prove hardy as far north as the Trumpet-vine will flourish well, though, perhaps, the berries may not have time to mature and put on its fine color before frost arrives, but it would be admired for its graceful foliage alone.

The plant is considered by botanists as being diœcious, but it is more probably polygamous. The fact is worth remembering, as it is not advisable to raise such plants from seed. A plant that bears well

should be selected, and layers made from the young growing shoots in June. We hope some of our southern nurserymen will soon have it on their lists for sale. The small figure represents a seed cleared from the pulp, and is quite a curiosity in its structure.

LARGE POTATOES.—C. says:—"Can you tell us what is the size of the nail-kegs used in Florida, to which you compare the potatoes grown in that State in your November number?" which we understand as a polite expression of his potatorial infidelity. We know nothing more than the statement conveys, which, as we duly credited, originally appeared in the *Southern Cultivator*.

Our correspondent's doubts originate, evidently, from his experience of the potato here. The root of the plant—the "potato" of our tables—being, properly, a bud only, must mature whenever the plant which produces it does, and the following season must die away and give place to a new growth, as it is well known potatoes do. Under such circumstances, it would be, of course, impossible for a tuber to continue enlarging "for three years without becoming pithy"! But can our correspondent say the potato plant may not continue growing in the mild climate of Florida for two or three seasons without maturing or dying down? If it does do that, there is nothing incredible in the statement of the Florida correspondent. The potato-tuber—properly its bud—would grow as long as the plant did it belonged to. It is not wise to discredit positive statements, for no other reason than because they do not accord with our limited experience.

In like manner we have heard parties dispute the probability of a potato producing white and purple tubers on the same plant. A statement which, independent of the positive evidence in its favor, is not only probable, but, to a certain extent, can be accounted for.

White, scientifically speaking, is no color. It is, in fact, the absence of all color; but, in the everyday language of horticulture, it expresses loss of color. Many plants with colored leaves and flowers lose their color, and become white or variegated, and these sports are continued by propagation from buds or cuttings; but it is found, in practice, that there is a continual effort on the part of the plant to regain its lost colors. Variegated hollies, yews, box, euonymus, cedars, and many other plants have to be continually watched to take out the green shoots that persist in coming out amongst the variegated ones.

The original color of the potato was blue. The white is a sport, and as in the other cases, propagated as it is by buds, there is a continual tendency to revert to the original color. Very few are the cases of white potatoes in a field of blue ones; but

blue degenerating, or regenerating, from the white, is an every-day occurrence.

POET'S CORNER.—I am so much pleased with the contents of thy paper, that I intend to subscribe for it as long as it and me live. Yet there is a want, which, if supplied, would, I think, be an improvement, and that is a Poet's Corner, say half a column at the end. It would be interesting to thy youthful and female readers; and even sedate folks of my age would read it, as I would contribute occasionally to it. All poets have sung of gardens, flowers, and bowers. Let us have a Poet's Corner. I will wait for the number of first month to see what thee and thy readers think of it.

JOHN ARBOR.

[Much obliged by our friend's compliments; but we fear we are lacking in patience to conduct such a department. We have an indescribable horror of bad poetry; and when we look at the "Poet's Corner" of some of our exchanges, and the quality of the stuff that passes muster to get there, we are sure the "galled jades of editors must wince" at the severity of the doom that ordains them to wade through perhaps hundreds of pieces to select even them. No, no, good Friend Arbor. Your own pieces would be, doubtless, very meritorious; but in opening the door, so many would rush in, that our nerves would soon break down, and your last service to us would be to write an elegy to our honor, and chaunt a dirge over our remains,—a melancholy duty, which, for reasons satisfactory to ourself, we wish to reserve for you as remotely as possible.—Ed.]

NAMES OF PLANTS—H. A. T., *Crescent City, Iowa*.—We have a tree growing plentifully here that we call *Box Elder* or *Alder*, and I wish to know if it is not the same tree that is cultivated in the Eastern nurseries as *Ash-leaved Maple*? (1.)

The bark of the young trees, and limbs of the larger ones, are of a bright green color. I also send you two flowers for names. No. 1 is cultivated at the East, but I do not know the proper name of it. It is called *Matrimony-vine*. Can you give me the proper name? (2.)

No. 2 is one of our native plants, and is a beauty. It is a perennial, grows from one to two feet high, blooms in September. (3.)

[1. The same. *Negundo aceroides*.

2. *Lycium barbarum*.

3. *Diplopappus linariifolius*.—Ed.]

PEARS.—We have received specimens of a seedling pear from Hon. S. Walker, which we wish to keep a few days for more perfect maturity before testing. We ask the same favor of delay from others of our friends.

ROOTING IN MOSS—E. C. A.—I procured, last year, some Cherry Currant bushes, and, being much delighted with the fruit they bore this year, I thought I would make some cuttings from them. Now, having read about cuttings making roots very readily in moss, I concluded I would try this. Having prepared my cuttings about eight inches long, (September 14,) I placed them in horizontal layers, between moss in a soap-box, getting in eight hundred cuttings in eight layers. On the top I put a thick layer of moss, to insure moisture to the upper layers of cuttings. I then placed the box under glass in a cold hotbed frame. On examining my cuttings yesterday, I found them all beautifully calloused over, and even little roots projecting from the callus.

The object of my letter, Mr. Editor, is now to inquire of you, whether I may leave these cuttings in the moss all winter, or whether they had better be put in sand or earth now. A kind answer to my inquiry, through the *Gardener's Monthly*, would oblige me very much, and may be interesting to more of your readers.

[The sooner they are out of the moss after rooting, the better. They should be put for a few days after being set in a pot or box of soil, into a place a little warmer than the place they came from; and if with a gentle bottom-heat, so much the better.—Ed.]

DISEASED CAMELLIAS.—Some one, who gives us no name, and the post-mark on whose letter is illegible, sends us the following:

"I send you a leaf as a sample of my camellias. I had them in a shady place all summer; potted or shifted them in September; they had bloom-buds on. The buds are falling, and the plants looking worse every day. I have no greenhouse. Sometimes they are kept in the cellar through the winter. I have them now in a sunk pit, with good glass sash for a covering.

"Will you please to let me know, through the *Gardener's Monthly*, why they look so, and how I may treat them? and oblige A SUBSCRIBER."

When "camellias are potted in September," unless they were previously very healthy, and in the hands of an experienced party who would know how carefully to water them, they generally "grow worse." Never shift any plant until it is just about to grow. The roots of your plants have become diseased, and do not act, and the leaves, deprived of sustenance, become brown and fall off. Keep them now as dry as just possible to maintain vitality, and early in spring cut them in severely, and set in a hotbed to induce a new growth.

NAMES OF PLANTS—W. M. B., *Hancock, Ills.*—*Clematis Virginiana*, the Virginia Virgin's Bower.

WATERMELON MOLASSES—C. C., Winchester, Tenn.—In the September number of your invaluable periodical, I noticed an article headed "Watermelon Molasses." As melons are very plenty in this country, I would like to find out how he makes it. I tried a small quantity of juice, boiling down to a syrup; but it had the taste of burnt molasses, though I was very careful in boiling not to burn it.

As your correspondent expresses himself willing to explain his process of making the syrup to any one asking him, I would like to get his address. If you do not have his address, could you give me any information about it,—whether the peculiar burnt taste can be got rid of? Also, how to clarify it from very fine particles of melon that straining will not take out, so as to make it clear like the syrup we buy at stores? If you will please answer this, you will confer a great favor.

[The gentleman referred to will, we hope, comply.—Ed.]

STRAWBERRY-WORM.—Is there any remedy (except finger-picking) for the worm that eats the leaves of strawberry plants? The full-grown worm is an inch long, white or very pale green. It appears at the close of the fruiting season, and remains about a month. The second generation comes in September, and is still (October 11) abundant, varying from three-eighths to an inch or a little more in length. Please answer in your next *Monthly*, and oblige a

SUBSCRIBER.

[We have never observed the insect our correspondent alludes to; and as the post-mark is illegible, and there is no clue to what part of the country our "Subscriber" lives in, we are unable to collect any information from others.

Will correspondents please remember that inquiries, to receive any chance of attention in the forthcoming number, must reach us before the 10th of the month. All the work of this department cannot be done in a few days before going to press. It is a pleasure to aid our friends if they will give us proper time.—Ed.]

SPEAKERS AT THE POMOLOGICAL CONVENTION.

—We are pleased to note the increasing interest of amateurs in horticultural influence. At the recent American Pomological Convention, the names of seventy-six speakers were reported. Of these, *fifty* were amateurs, and but twenty-six nurserymen.

INTRODUCTION OF THE LOMBARDY POPLAR.—Can any of our readers inform us when and by whom this tree was first introduced into the States? We have heard the names of William Hamilton and Chancellor Livingston mentioned in this connection, but without any decided facts to substantiate the supposition.

ROOTING CUTTINGS—Wm. F. Steel.—"I should like to inquire, through the *Monthly*, of Mr. Howland, Watson, or Smith, or others, if they can tell the readers of that valuable journal, how they can start the roots of cuttings as easily as they can cause the callus to form. I find it very easy to callus cuttings; but starting the roots is another affair. I find fine moss far preferable to any thing else for the callus to form in. Either green or ripe grape cuttings callus well in it. I have had roots start half an inch in it from green cuttings. I hope the *Monthly* will receive the success it deserves."

GRAPES FROM CENTRAL NEW YORK.—Late last month we received a fine collection of grapes from Mr. W. Tompkins, Germantown, N. Y., which we highly prized as affording us an opportunity of testing the relative quality of fruit ripened there. We give the list in the order of quality: Concord, Raabe, Clinton, Diana, Catawba, and Isabella. We were surprised at finding the Concord at the head of the list, as it is the first time we have ever eaten one better than an Isabella when grown under the same circumstances. In this section the Isabella beats it in that one point.

INSECTS ON APPLE TREES—J. G. M., Steubenville, O.—The specimens are one of the common species of the insect coccus. They are usually exterminated by syringing with strong lye. We never saw them so numerous crowded as on your specimens. The trees must be considerably weakened by them. We should prune off and burn all the young twigs before cleaning what was left.

C. SENDS us a communication noticing Dr. Hayes' strictures on his former paper. As he expresses his "entire satisfaction" with Dr. Hayes' remarks, there is no immediate necessity for its publication; but it contains valuable hints on other subjects, and shall appear in our next.

PLANTS—D. O. Reeder.—Next month.

Books, Catalogues, &c.

THE ILLUSTRATED ANNUAL REGISTER OF RURAL AFFAIRS FOR 1861. By John J. Thomas. Published by Luther Tucker & Son, New York.

This is the seventh annual appearance of this useful serial, and is fully equal in interest to any of its predecessors. It is illustrated by one hundred and forty engravings of various subjects connected with rural life. It is replete with valuable suggestions, and just the thing to circulate amongst those

who may have old fogyish prejudices against "book farming;" and not merely is it valuable as a pioneer in preparing the way for a higher order of taste and refinement amongst those to whom a taste of these luxuries is most needed, very few of the most cultivated would peruse it without gathering from it useful hints and valuable suggestions.

Mr. Tucker deserves well of his country in more ways than one. It is to him we owe the origination and establishment of the *Horticulturist*, at a time when the attempt was thought madness, and the scheme an excellent one for the consumption of surplus funds at least. But with the editorial assistance of the late Mr. Downing, the project was eminently successful; and we envy Mr. Tucker the satisfaction he must feel at the present flattering condition of American horticulture, due as it is, in so great a measure, to his liberal enterprise and excellent judgment.

We have, at any rate, a pleasure in noting the fact, that though he must now be passing into the sere and yellow leaf of life, he is still laboring in the good cause as energetically and usefully as ever,—as the present little volume, his *Country Gentleman*, and other works so ably testify.

DESCRIPTIVE CATALOGUES.

GEORGE G. CURTIS & Co., Maysville, Ky. Fruit and Ornamental Trees, Roses, &c.

The perusal of this catalogue has very much interested us. It is not only one of the most complete published in the West, and got up with general accuracy, but has many points of original merit. Besides the general list of apples cultivated, there is a catalogue of Southern apples, with the names of the States attached where they originated, so that parties wishing to test fruits of their own districts, may have a chance of understandingly proceeding with their experiments. Mr. Curtis also consults the interests of his customers, by devoting the fly-leaf of his catalogue to telling them where they can procure the best journals to give them reliable information on all matters connected with the articles they may purchase of him, and names the *Gardener's Monthly*, the *Horticulturist*, etc., for which assistance to the cause for which we are laboring he, as well as other friends who have adopted the same course, will please accept our best thanks.

DEXTER SNOW, Chicopee, Mass. Verbenas.

W. R. PRINCE, Flushing, N. Y. Bulbous Roots.

JOHN RUTTER, West Chester, Pa. Grapes.

JOHN WILSON, Albany, N. Y. Dahlias for 1859. This excellent list has been mislaid all summer, and only recently came to light, making us feel very much like Macbeth at the sight of that ghost. However, we have this advantage, we can say that since its receipt we have seen what is better,—Mr. Wil-

son's dahlias themselves, and can truly say that Adrien Carmail, Sir H. Havelock, Mad. de St. Laurent, Mount Vesuvius, Triomphe de Peck, and some others were amongst the finest we have seen this season.

BARNES & WASHBURN, Harrison Square, Mass. New Plants, Florists' Flowers, &c. One of the most valuable lists published.

JOHN SAUL, Washington, D. C. Roses.

CAREW SANDERS & Co., St. Louis, Mo. The secular papers have been talking recently considerably of the marvellous growth of St. Louis,—a fact of which the circumstances of its supporting so complete and varied a stock as this nursery represents, be a sufficient proof.

THOS. LEARMONT, Columbia, S. C. Evergreens, Shrubs, Roses, &c.

C. N. PALMER, Gallipolis, O. Fruits.

FLEMING & NELSON, Augusta, Ga. Fruits and Ornamental Shrubbery.

WHOLESALE LISTS.

J. W. ADAMS, Portland, Maine. Hardy Evergreens, &c.

PLUMB, WILEY & Co., Madison, Wis. Fruit and Ornamentals.

A. S. FULLER, Brooklyn, N. Y. Grapes, Fruits, &c.

HOOPES & BRO., West Chester, Pa. General Nursery Stock.

JOHN SAUL, Washington, D. C. Fruits, Evergreens, and Ornamentals.

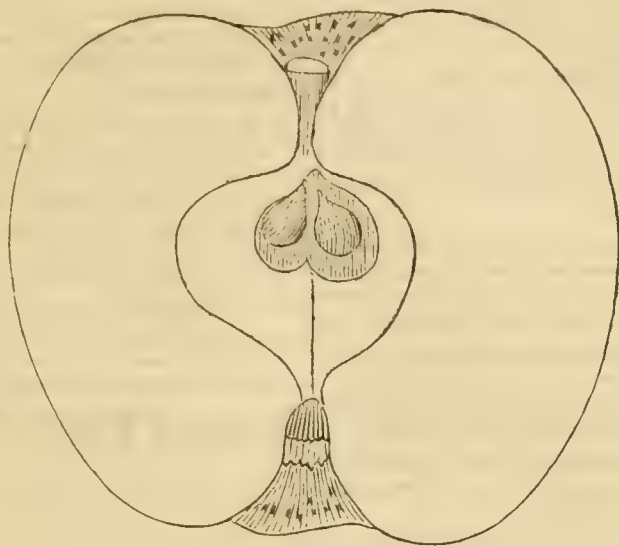
BAILEY & BRO., Wilmington, Del. Roses, Grapevines.

B. H. MACE, Newburg, N. Y. Grapes.

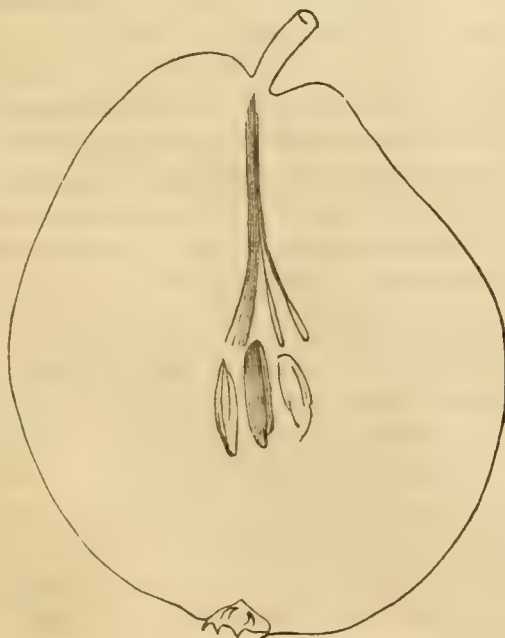
New and Rare Fruits.

THE ELIZABETH GRAPE.—We are indebted to Mr. C. W. Seelye's kindness for a specimen of this fruit, which we have already noticed in our columns. We were somewhat disappointed in it, as we were led to believe, from report, that it was supposed to be of foreign descent, and the experience of our best cultivators, from Mr. Longworth to those of more recent report, shows that all attempts to acclimate them will, sooner or later, end in failures, however much a few years' partial success may shake the faith of new beginners in that doctrine. But we were pleased to find that it is a genuine native white grape of the first quality,—a Rebecca in form, with the Maxatawny flavor. We expect to see a sharp contest between this and the Maxatawny for the supremacy.

GRACEY APPLE.—In our last we gave a figure and description of a new apple, from the pen and pencil of Mr. John M. Smith, of Greenville, Illinois. The same gentleman sent, at the same time, the following also:



Size, large, or above medium; form, regular, roundish conical; color, light green, thickly set with greenish white specks; stem, short, filling the bottom of the cavity; cavity, rather deep, regular; calyx, rather large, open, with short segments, and stamens persistent; basin, deep, irregular, ribbed; core, small; seeds, large, light brown; flesh, greenish white, tender, coarse-grained, with peculiar mild, sub-acid flavor; season, first of August. Raised from seed by a *Mr. Gracey*, of this county.



SHEPARD SEEDLING.—Under the name of the Shepard, Mr. Downing classes this, in his last edition of "Fruits of America," with the new and untested kinds. Specimens recently from Dr. Puffer, of North Bridgewater, Mass., shows that, so far as quality is concerned, it is a pear of the highest excellence. It was first introduced in 1852. It is rather liable to blow from the tree, and, so far, does not seem to do well on the quince; but it is a very strong grower and profuse bearer. The annexed cut and description are from specimens sent.

Shepard Seedling from Dr. Puffer. Fruit above medium, somewhat ribbed, conic obvate; skin, yellow, profusely covered with russet dots; calyx, small, in a very shallow plaited basin; stalk, short, sunk a little in a small basin, set obliquely; flesh, rich, very juicy, with a perfumed vinous flavor; of best quality. Eaten October 15th.

IMPERIALE AND MUSCAT CALLIABÆ GRAPES.—I send you, by express, a few samples of grapes, which I would like your opinion on.

1st. Imperiale. This is from a vine I imported from Leroy, of Angers, and has borne with me for the first time. It is early, and was ripe in a cold vinery about the 5th of August, and has hung ever since on the vine. You will perceive that it is a very large grape, with great solidity of flesh. The vine is a very strong grower; and, when it attains greater age, the bunches and berries will, no doubt, be larger than at present.

2d. Muscat Calliabæ. This is another new grape, obtained from the same source. The vine is yet very weak. Last year it bore for the first time. The bunches and berries were then double the size; but too many were allowed to mature on the vine, which weakened it so that the fruit is small and not so high-flavored this year as even last. I think it will prove a fine grape when the vine attains strength.

I also send you two bunches of white grapes. I had to put in small bunches to fill up the box, there not being room for large ones.

3d. This is one I got, long ago, from Prince, of Flushing, N. Y., as the Golden Chasselas, which is usually classed as the same as the Royal Muscadine or Chasselas de Fontainebleau. I have the latter from two different sources, and it is quite different.

I send you, No. 4, Chasselas Blanc Royale, also got from Leroy. This has proved so nearly alike to my Chasselas de Fontainebleau, that I can see no difference. You will perceive it is quite different from the Golden Chasselas. As the latter has a fine musk flavor, I would have taken it to be the Chasselas Musque; but it does not crack like the latter, and ripens well in the open air.

Will you be so good as to inform me, through the columns of the *Gardener's Monthly*, what you think of the two new varieties? and also what is the proper name of the one sent as the Golden Chasselas?

I have a number of other new sorts that should fruit next year. Also a lot of seedlings. One fruited this year in the open air,—a seedling from a foreign sort. It is very peculiar in growth, ripens very early, and is very good. Unfortunately, all the bunches were pulled when I was absent from home. I hope to send you some next year, and also some very fine seedling gooseberries, crosses with the native varieties, that I think are ahead of any thing yet out.

Yours truly, JAMES DOUGALL.

[Our abominable post-office system, by which fitness for position is made secondary to political services rendered to successful candidates, is becoming an evil too great to be patiently borne. Mr. Dougall's letter arrived here seventeen days after the

express company handed us the box. By the time that reached us, the grapes were not in good condition.

The Imperiale, however, is a very fine grape, with the long, tapering, and slightly shouldered habit of the Black Prince; and with a dark Japan-black color, that renders it quite striking. It is certainly a grape of great promise.

2. Muscat Calliabæ (CAILLABA is probably the correct orthography,) is a purple grape, with the berries very compactly set on the bunch, and with a deliciously perfumed flavor. To say that it was a St. Peter's with a Muscat flavor, would, perhaps, convey a good idea of it.

3. It was eaten before we received the letter, but we had no suspicion that we were eating any thing but Golden Chasselas, which we think it truly was.

4 is White Sweetwater.—ED.]

Recipes FOR FRUITS AND VEGETABLES.

"The lady who contributes a good recipe for the public benefit, deserves as much credit as he who introduces a new fruit or vegetable."—*Good Authority.*

VEGETABLE OYSTER, OR SALSIFY.—This excellent plant grows like a parsnip, and is in flavor very much like fresh oysters. Scrape them, and cut them round in thin slips; boil them tender in milk and water, season them well with pepper, butter, and salt; make a nice toast, moistened with the gravy laid in the bottom of the dish, and pour the whole over it. You could scarcely detect the difference. There should be but a suitable quantity of the gravy; too much lessens the flavor. It is sometimes cut up and par-boiled, chopped fine, and fried in batter. The roots may be first cooked tender, then fried whole in batter. [This is the very best mode in which to cook this fine vegetable. We have raised it constantly for a dozen years, but never use it until about the end of October. They preserve best left in the ground, like the carrot, to be used whenever the frost will admit of their exhumation.—*Germantown Telegraph.*

POTATO SALAD.—In your "domestic," when you are giving directions for the cooking and use of sundry vegetables, perhaps you might add a mode of making a potato salad much used in some parts of the continent, and is thought by many to be delicious eating, particularly with salmon, or fish in general, or indeed anything else. The mixture of vinegar, oil, mustard, salt, and hard egg is the same as for common salad, and according to taste; the potatoes are sliced when cold, with beet-root also sliced. The cottager may merely use the vinegar, salt, and mustard, and add sliced onions.—*E. W., Collage Gardener.*

APPLE PIE MELON.—Cut, pare, and take out the seeds, cutting crosswise, stew until thoroughly done, using as little water as possible, and when done, turn into a cullender or cloth to drain, then add sufficient sharp cider vinegar to give the tart (I prefer vinegar to acid), and then proceed the same as in making green apple pies. The addition of a lemon adds to the flavor. Bake with under and upper crust. They make fine preserves or may be stewed and put up in cans, the same as other green fruit, and they will afford a fine substitute for sauce or apple pies through the summer.—*Farmers' Advocate.*

PARISIAN MODE OF ROASTING APPLES.—Select the largest apples; scoop out the core without cutting quite through; fill the hollow with butter and fine soft sugar; let them roast in a slow oven and serve up with the syrup.

CELERY SAUCE.—Take a large bunch of celery, cut it fine, and boil it till soft in a pint of water; thicken it with butter and flour, and season it with salt, pepper, and mace.—*Rural American.*

FOX GRAPE JELLY.—Split and seed the grapes. Dissolve an equal weight of white sugar in water and put to boil, removing all the scum; add the grapes and boil; try the syrup, and if it jellies, they are done.—*Farmer and Gardener.*

Domestic Intelligence.

FLORA OF JAPAN.—A correspondent of the *World*, dating from Japan, middle of April last, says:—

"We had our lamb and green peas a fortnight ago. Radishes have gone to seed; lettuce is fibrous; strawberries, 'snakeberries,' as the Japanese call them, are plenty in the fields—strawberries in size and color only, for they are dry and tasteless as the apples of Sodom. The apricots have more than half their growth; the good-for-naught cherries are turning red. Cucumbers of a little more than a finger's size, brought to market in little shallow straw baskets that hold two of them, are sold for a penny a basket.

I have seen no curiosity of vegetable growth greater than that of a *Wistaria* I came upon a few days ago. It grew at the foot of a high bank overhung with *cryptomeria*, where stood an old wayside shrine. Like the oak of Summer Chace, it was

—hidden to the knees in fern."

while its creeping vines ran riot over a plantation of palms, stunted by this green serpent's embrace and the branches of a large tree that had been felled by its side. Two feet above the ground this *Wistaria* had a girth of five feet! About fifteen feet from the

ground it divided off into a multitude of snaky vines that extended fifty feet horizontally over the tops of the stunted palms, or twined around their trunks and among the branches of the fallen tree, a curious mass of tangled growth. Its lilac-colored flowers swayed with the wind in pendulous racemes a foot and a half long. The Japanese dwarf this vine extremely, training it also over arbors where its long pendants have an effective display. The lilac-colored variety grows wild in the hills about Kanagawa. The pure white variety I have only seen cultivated as dwarfs; it probably comes from some other part of the island.

I have before spoken of the *Azaleas*. Nowhere else in the world, I fancy, do they have their equals. I have seen the hill-tops all aglow with their crimson petals, as though a conflagration was sweeping across. I have seen the bushes or small trees, as in Japan they might be called, bordering the woodland paths with a prodigal display of purple, and scarlet, and crimson, and orange, and yellow, loading the air far and near with perfume in that inexhaustible profusion which nature sometimes loves to exhibit. I have picked the blossoms, and throwing them down on the earth, have measured them as they rested on their petals a foot in circumference! A Montan peony lies before me whose broad disk, not exceptionally large one, measures two feet around. The *Pawlownia* (*Pawlownia Imperialis* of Siebold) is now in bloom. It is indigenous to Japan, and might be easily mistaken for the *Catalpa*, which it closely resembles.

Two features in the Flora of Japan cannot fail to strike every observer—the beauty and great variety of its evergreen trees and shrubs, the same extent and variety of flowering trees and shrubs. Of these last, from the opening of Spring until now there has been a constant succession. I hope yet to see many of them growing on American soil. There is a *rubus* now in bloom whose flowers are as large and nearly as perfect, and quite as beautiful, as our own double white roses. I have seen the vine growing in country farm-yards to the height of ten feet, white with its scented blossoming.

APPLES FOR WISCONSIN.—The Pomological Society of Wisconsin recommend for that State for general cultivation: Red Astrachan, Sops of Wine, Carolina Red June, Duchess of Oldenburgh, St. Lawrence, Wagoner, Pomme Grise, and English Golden Russet. The last was very highly recommended for western culture. Early Harvest, although not hardy, yet on a firm, dry soil, with a low top, was regarded as valuable. Early Joe had proved hardy and productive, and well adapted to amateur culture. Maiden's Blush was well esteemed, but

somewhat tender. Fall Orange always did well. Jersey Sweet, Rambo, Domine, and Vandevere Pippin, had proved too tender. Fall Wine slightly so, and very productive. The Baldwin was found to be very tender, quite unproductive, and of no value. The English Russet succeeded only on high and dry soils. The Red Romamite quite hardy, but the quality poor. Herefordshire Pearmain was highly recommended; usually hardy on dry soils, but failed on low grounds. Rawles' Janet was found to lack vigor of tree. Northern spy succeeded well. Blue Pearmain, hardy and good, was very unproductive. Tallman Sweet and Fameuse were both highly recommended.

POTATOES.—At a late meeting of the New York Farmer's Club, Mr. Carpenter said he planted last year sixty varieties of potatoes. This year he planted only five for his main crop. He recommends in order as named:—

Davis Seedling.—Red skin, white inside—cooks dry and mealy—very prolific, but like all other red varieties does not sell well in New York market—can be planted closer than the peach blow, and is more prolific—shape long—seed end deeply indented—size large—grow in a bunch—very clear of rot.

Dikeman.—White, with pink eyes elongated, originated some six years since at the west; early and good the year round. (Mr. Fuller believed it to be the old pink eye.)

Prince Albert.—Long, white, smooth, prolific, a good table variety, late in the season, bears a good price.

Dover.—Red, round, eyes indented, very choice.

Bulkley Seedling.—Planted a few this year, but from the experience he has had, cannot recommend it.

Mercer.—Good, but abandoned in Westchester County on account of its rotting.

Peach Blow.—Rots badly and grows too rank.—*Life Illustrated.*

OBITUARY.

We regret to learn of the death of Mr. GEORGE C. THORBURN, the well-known florist and horticulturist. Mr. Thorburn fell into a vault at Grace Church on the 9th ult., and received injuries which have caused his death. He was under appointment to take charge of Mount Vernon as soon as it should pass into the hands of the Ladies' Association, as we have already stated in the *Monthly*. He was one of the earliest friends of our journal, and was highly esteemed by a large circle of friends, who will regret to learn of his death. A daughter of Mr. Thorburn died a few weeks since, while on her way to England, from injuries received by falling down a stairway of the ship on which she was sailing. Mr. Thorburn's first remark on receiving his injuries was, "Am I to die like my daughter?" This coincidence of casualties is remarkable.

Foreign Intelligence.

CULTURE OF THE CHRYSANTHEMUM.—For decorating the conservatory or ornamenting the drawing-room during the two gloomiest months of the year, no flower equals the Chrysanthemum.

Being a successful cultivator of these favorite plants, I beg to furnish you with my mode of treatment. In November and December take cuttings from the strongest laterals, insert each in a 3-inch pot, in a compost of loam, leaf soil, and silver sand; then plunge them in a cold frame, and when well rooted shift into 4-inch pots, in a compost composed of two parts good rough turfy loam of rather a stiff texture, one part thorough decomposed dry cow dung, with a sprinkling of river sand and charcoal to keep the soil porous. Care must be taken that they are re-potted before the fibres get too much matted, and continue shifting from size to size until the end of July, when they should be settled in their blooming pots, 10-inch. Too much attention cannot be paid to drainage; for although the Chrysanthemum delights in moisture, it will soon show signs of distress if the roots are water-logged from want of sufficient care on this point. When they get their last shift, use plenty of pounded potsherds, not less than three inches in the bottom of the pots, over which put some fibrous pieces of turf to keep the drainage open.

When the plants are about six inches in height they will require stopping, taking only the crown, as every eye left gives a break more. If you wish to show that the plants are grown on one stem only, extract all the bottom eyes, so that the plants may show two inches of clear stem; keep them near the glass, giving them abundance of air; but care must be taken to exclude cold cutting winds, and protect from frost. As soon as the plants break and the laterals are about four inches long, they will require stopping, and as the weather becomes warmer use weak liquid manure. Particular attention will be required in pegging down the shoots, as some are very brittle and apt to break. They will require going over often, bringing them down gradually to within two inches of the pot; for if you peg them down to the soil, they will strike root. Stop again when the shoots have grown four inches, and continue doing so up to the middle of July. About the beginning of June they should turned outside into some sheltered situation, avoiding putting them under walls, trees, &c.; plunge them up to the rim of the pots in coal ashes, attend to frequently mulching the pots with rotten horse dung, to keep the sun from scorching the rootlets that are near the surface.

As regards training use four sticks in each pot, round which put a hoop of wire; and as the plants advance in height, use another if requisite.

Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The November Stated Meeting was held on the 20th inst.

The greatest attractions were the Chrysanthemums. Mr. Eadie's were the finest specimens we ever saw. Some of them measured fifteen feet in circumference, were perfect in shape, and many of them had between two and three thousand flowers expanded on them. They were Pompons, and consisted of Madame Lafarge, La Citrine, Sacramento, Rosette, Bob, Napoleon.

Mr. Dreer had some very fine kinds on exhibition, as follows:—Those marked * we thought extra fine.

LARGE-FLOWERING KINDS.

*Virginia Mielze, *Remis, Margaret of Norway, Eliza Polo, Mt. Vesuvius, Amice Vernier, Cassy, *Cassanda, Rutlier, Admirable, Madam Guillaime, Marshal Duroc.

POMPONE.

Turnette, La Carmelite, Mignonette, La Precieuse, Roi d'Illyput, Bloudinett, *Fleurette, Soleil d'Or, Blanch Aiquilou, Mad-Martin, Belot Dufougere.

The new *Centradenia grandiflora*, with larger leaves and flowers than the two other well known kinds, by Mr. McKenzie was considered a good acquisition. We noticed amongst the plants exhibited, hollow glass label, described at page 41 of our last volume, which had a very neat and pretty effect. In the same collection of plants, a noble specimen of *Fartugium Grande* was universally admired.

The Fruit department was not extensive, but very select. We noticed the Schuykill pear, a kind resembling the Petre in form and appearance, but that kind does not keep long after gathering. These specimens were gathered in September. In Mr. Baxter's collection, the Niles, formerly confused with Easter Beurre, but very distinct, were beginning to color. The Princely apple by Mr. Noble, were beautiful looking specimens. Very fine Black Hamburg Grapes were exhibited by Mr. Matheson, from Mr. Yarnall—the second crop from the same vines in one season. Pine apples, in Pots, ripe, from Mr. Baldwin's garden. A communication was read from Mr. Parry, who deserves much credit for his monthly contributions of specimens of various articles for the public information—on different raspberries. Specimens of the branches of the kinds referred to were exhibited. The Marvel of four seasons from Le Roi of Angers, was identical with Belle de Fontenay, obtained from a nursery near Philadelphia, though it is believed there are two distinct kinds under these names.

Allen's Red Time, and the *Allen* also, showed well marked characters: the former with stiff, erect shoots, with a purplish bloom; the last with brown, and somewhat recumbent stems. The French, from Mr. Concklin, was composed mainly of Bagley's perpetual (which latter by the way is believed to be identical with the old perpetual Antwerp of our old Pennsylvania, and perhaps other settlements), and of another kind not recognized.

The following is the list of officers chosen for the ensuing year:—

President—M. W. Baldwin.
Vice Presidents—James Dundas, B. A. Fahnestock, J. F. Knorr, Robt. Cornelia.
Treasurer—R. Buist.
Wm. Saunders—Corresponding Secretary.
Henry Hay—Recording Secretary.
Prof. of Entomology—S. S. Rathvon.
Prof. of Botany—Dr. Darlington.
Prof. of Hortl. Chemistry—Jas. C. Booth.

FULL CORRECTIONS OF OUR REPORT OF THE POMOLOGICAL SOCIETY'S MEETING.

From circumstances which we alluded to last month, we naturally expected our report to be imperfect, and cordially invited gentlemen to send us such corrections that they might wish to see made in this chapter. To those gentlemen who have done so we tender our best thanks.

We are pleased to record that most of the parties to whom we have applied for corrections, have expressed themselves pleased with the general accuracy, and have had no alterations to offer. When it is remembered that our report is the fullest that has ever yet been attempted in years past,—and nearly one-third fuller than any one now attempted; and that, in proportion to the length of the report, it contains fewer errors than any other, either professedly in full or in the abstract,—and that the whole report was published within a few days after the adjournment of the Society, without any opportunity of correcting any part of it by comparison with any other published report, we think the credit which has been given to our reporter is fairly and honorably earned.

The following are, we believe, all the additional corrections we have to make:

APPLES—*Stansill*.—Mr. Berckmans said, "I have the Stansill, among several varieties Mr. Steele sent me some years ago. They were not ripe when I left. Last year I had a specimen keep till January.

Raisins Jeannette should be spelled Rawles' Janet, the name being an English local corruption of "June-cating." Sometimes these apples are called "Janettings" or June-cating. In Mr. Berckman's remarks, "At least as far as nursery trees of this species is concerned," was spoken by him in reference to some other subject not reported.

Hawthorneden.—The remarks credited to Mr. Harvey, by their tenor appear to belong to Mr. Hovey; but we have seen or received no certain statement to this effect. Mr. Batcham's and our own corrections in the last number, with these, we think, now renders the Apple report complete.

Currants—Imprial Red.—In Mr. Strong's remarks, the last sentence refers to *Gloire des Sablons*, with the addition of "judging from a single season's experience." We believe Mr. Saunders stated to us verbally, that he was not correctly reported on the *Gondoin* variety, but we do not remember that the error was specified.

Strawberries—Brighton Pine.—Mr. Strong said, "In general, it is not regarded as a poor bearer. The leaves sometimes blast in dry weather."

Grapes—Crestling.—Mr. Mitchell said, it "is no better in my place than the Isabella."

Clara.—The same gentleman: "It has borne very large crops of grapes." Our report left out "crops."

The Mario.—Mr. Strong received his vines, not his "information," from Dr. Grant.

Pauline.—Mr. Berckmans said it never mildewed. "When the leaf has crumpled," &c., should read, "It has a crumpled leaf, and is distinct from all others." Another grape, confounded with the Pauline, called the Logan, should read, the *Long*. In Mr. Campbell's remarks, we believe the "Logan" is properly the one referred to, and we presume the kinds got confused in the minds of the speakers through the street noise that prevailed, and the low tone caused by the illness of one of the speakers. Mr. Berckmans subsequently said, instead of what is reported: "The Pauline Grape ripens earliest." In reference to maturity between that variety and the Long Grape, Mr. B. did not say any thing about the Lincoln resembling it, but stated that it was far different from Lenoir, and that the Lenoir was distinct from the Lincoln Black July, Sumpter, &c.—the former having a larger bunch and coloring juicier, and productive; whereas the Lincoln has a colorless juice, small bunch, and is a poor bearer. Mr. Mitchell's remarks on the same grape are correct in substance, but more awkwardly reported than he expressed them.

Allen's Hybrid.—Mr. Strong is reported as saying, "The vine clings strongly to the fence." It should read, "The berries cling strongly to the bunch."

Massachusetts White.—Mr. Strong's remarks were in reply to a question. He was called upon to defend a report of a committee, but made no allusion to his membership.

Pears.—Mr. Coit is spoken of as "Hoyt" throughout the report. *Beurre Nantais*.—Mr. Wilder said it made a fine pyramid, not "pear," and bears abundantly.

Hosenschenk.—Dr. Eschleman, we believe, said it did not succeed within thirty miles of Philadelphia.

Lodge, Mr. Wilder said, was a straight grower; and Mr. Reid, "one of the best of its season."

Buerre Montignon should be *Buerre Montgeron*.

"*Euchid*" should be *Uchlan*.

Selleck, Mr. Scott said he believed, was a seedling of the *Bart*lett.

Congress.—Mr. Vicks' report, we believe, correctly refers to Mr. Saul the remarks we have credited to Mr. Steele.

Omah Pacha should be *Oma Pacha*.

Golden Beurre of Bilboa.—Mr. Bergen said, it barely lives on quince.

In Dr. Boynton's remarks, he is made to say, on page 33, line 44, that he got his phosphate from "vines," instead of *bones*. Line 9 from the top, "fibrous exhalations" should read, *liquid exhalations*. Lines 29 and 30 is not clear, but we leave it as the reporter made it. Line 4 from the bottom, "Oxbury Russet" should be *Roxbury Russet*. Page 34, line 11, "calcium of soda" should, probably, be "chloride of sodium." There may be a few other immaterial errors in Dr. Boynton's remarks; the corrections we have made are our own.

In the summary of "Fruits Promising Well," *Raabe Grape* and *Washington Pear* should be added.

We conclude with the following, that has been handed us for this chapter—a draft of an *unspoken* speech by Mr. Pierce, who was accidentally absent when the meeting adjourned. Many of the members, knowing Mr. Pierce's intention, were unprepared with a similar resolution, or we well know, from the great gratification Mr. James' liberal hospitality afforded all the members, as they freely expressed, it would have been enthusiastically carried.

Mr. President:

I wish to ask the attention of the Society for a few minutes. I must own that I feel somewhat obstructed in what I am about to say, by the choke-fear of modesty,—a fruit not much cultivated by modern pomologists.

I wish to call the attention of the Society to a particular fruit. It is well known to most of you. You have nearly all freely partaken of it, and are, I think, all prepared to bear testimony to its being luscious, juicy, and of highly vinous flavor. It is properly a seedling of this Society. I allude to the splendid entertainment given to the members of this Society by our worthy Treasurer, T. P. James. I move that it be added to the list of those that promise well, also to the one for general cultivation. And I will further add, that I hope it will continue fresh in the memory of us all, and that our friends of the Massachusetts delegation will either present us the same fruit, reproduced, at our next biennial meeting, or, at least, a highly-colored illustration of it.

YALE AGRICULTURAL LECTURES.

The public will be gratified to learn that the novel experiment of the *Yale Agricultural Lectures* of last Winter was so successful as to induce its repetition this Winter on a more complete scale. The course will commence February 5th, and continue through the month. These lectures are given under the auspices of the *Yale Scientific School*, or Scientific Department of Yale College, as a supplement to its newly instituted course of practical collegiate education, and for the benefit of the public at large. A new and important feature of this course will be its complete illustration by specimens, drawings, models, and animals. Life-sized paintings of groups from celebrated herds, will be included in these illustrations. The lectures on training and breaking horses are to be accompanied by practical illustrations. The lecturers of last year will take part in the course, and other eminent names, with a variety of new subjects will be added to the list.

The expenses of the course will be met in part by voluntary contribution. The lectures are under the direction of Prof. John A. Porter.

FRANKFORD WORKINGMEN'S HORTICULTURAL SOCIETY.

According to arrangement, our Annual Exhibition of Celery came off on Saturday, the 28th. The hall was decorated with evergreens, wreaths, designs, etc., which communicated to the whole affair a pleasing and cheering aspect.

During the afternoon and evening, the hall was free for visitors, and not less than twelve or fifteen hundred persons came, and all went away pleased and highly gratified with the result of our labors, many of them expressing a desire to aid us in the cause next year, not only with their means, but with their names; and through we are only workingmen, we expect next year to have an exhibition that Frankford may be proud of.

The winners of the Prizes were as follows:

For White—First, Andrew Walsh; Second, James Ruth; Third, Enosh Guy.

For Red—First, Andrew Walsh; Second, Thomas Wilson; Third, Jas. Ruth.

Seventeen other Special Premiums were awarded for other vegetables.

[We are pleased to hear of the increasing interest that has sprung from the little beginning made by the workingmen connected, we believe, with the factories at that place. In addition to the above modest report, we have received a Frankford paper, from which we gather that great enthusiasm is manifested for the Association by the citizens of that borough. We should be delighted to hear of the establishment of similar societies in other places.—Ed.]

GENESEE VALLEY HORT. SOCIETY.

The Show made by the Horticultural Society yesterday in the display of Fruits and Flowers was by far the largest and finest ever made, the number of exhibitors was much larger than usual and a new interest appears to be awakened in the Society. The show of Roses was unusually fine for the season, the same may be said also of nearly all the other classes of flowers shown.

The specimens of fruits were generally larger than the average and very fair.

The department of Hardy Grapes attracted much attention, as it was large and rich, many varieties being exhibited, which our citizens never before have had the privilege of examining.

The attendance throughout the day and evening was quite large and on the whole the exhibition was entirely satisfactory and we believe realized the highest expectations of the managers.

In our report of the Horticultural exhibition yesterday we omitted to mention the fine collection of fruits, flowers, &c. from A. Frost & Co. and also the collection of fruits from Ellwanger & Barry, but the awards will show the opinions of the Committees on the various articles.

REPORT OF COMMITTEE ON FRUITS.

Apples—Best collection of apples, J. Donnellan & Co.

2d best, Ellwanger & Barry.

Best 12 varieties, A. Corey, Penfield.

" " " J. Donnellan & Co.

Best dish of apples, H. E. Hooker & Co.

Pears—Best collection pears, Ellwanger & Barry.

2d best, H. E. Hooker & Co.

Best 10 varieties, H. E. Hooker & Co.

" dish of pears, (Louise Bonne de Jersey,) Ellwanger & Barry.

Plums—Best collection of plums, Ellwanger & Barry.

Peaches—Best 6 varieties peaches, J. Donnellan & Co.

Best dish of peaches, Moses Smith, Brighton.

Quinces—Best 12 specimens quinces, Ellwanger & Barry.

Hardy Grapes—Best collection Hardy Grapes, Ellwanger & Barry.

2d " do., A. Frost & Co.

Best 3 varieties, (Delaware, Diana and Elizabeth,) C. W. Seelye.

Best dish, (Delaware,) James Craib, gardener to S. Mathews, Esq.

Foreign Grapes—Best collection foreign grapes, Jas. Craib, gardener to S. Mathews, Esq.

L. A. Ward, Chairman.

REPORT OF COMMITTEE ON FLOWERS.

Bonquets—Best table bonquets—A. Frost & Co.

2d best table bonquets—C. W. Seelye.

Best pair hand bonquets—A. Frost & Co.

2d best pair hand bonquets—C. J. Ryan & Co.

Best pair hand bonquets made from flowers grown in open ground—C. W. Seelye.

2d best pair hand bonquets made from flowers grown in open ground—Ellwanger & Barry.

The displayed flowers were unusually fine for the autumn, although but for the heavy rain and hail storm of the previous night, it would have been much better.

Roses—Ellwanger & Barry exhibited over 200 varieties of roses, and among the number were 25 perpetual moss, a most interesting class at this time. For the best collection, the prize is awarded to Ellwanger & Barry. Second best to Frost & Co. For the best ten varieties to Frost & Co. In competition for this premium, Ellwanger & Barry presented, Lion des Combats, Dr. Marx, Dr. Roque, Gen. Jacqueminot, Laura Remond, Baron Prevost, Peonia, Mr. Griffith, Giant of Battles and La Reine.

Frost & Co. presented Gen. Jacqueminot, Marguerite de Vanbrum, Mad. Knott, Sylone, Ville St. Denis, Marquis de Hils, Henrietta de Penney, Marshal Gasper de Valliere, Jules Margotten and Mad. Angeline Grange.

Although no prize was offered for perpetual moss roses, the committee take pleasure in awarding to Ellwanger & Barry a special premium for their large and fine collection. They also consider their collections of Teas, Bengals, Noisettes and Bourbons as worthy of especial notice.

Dahlias—The dahlias, no doubt were severely injured by the storms of the previous night. The committee had some difficulty in deciding between merits of the two principal collections, but finally awarded the prize of the best collection to Frost & Co. Many of the exhibitors in this class did not seem to understand the premiums offered, and though their flowers were exceedingly fine, they were not so arranged and entered as to compete for the prizes offered for the best 20 and the best ten varieties. Had this been done, the decision of the committee might have been different. They awarded the prize for the best 20 to J. Donnellan & Co. For the best 10 to Ellwanger & Barry.

Verbenas—Best collection to Ellwanger & Barry. Best 12, J. Donnellan & Co.

Phloxes—Best collection, and exceedingly fine, Ellwanger & Barry. Asters and German stocks exhibited the committee do not deem worthy of a premium.

Annuals—Best collection, C. W. Seelye.—2d best Frost & Co. Jas. Vick, Chairman.

REPORT OF COMMITTEE ON VEGETABLES.

There was very little competition in this department. Mr. George Cooper made a large display of a great variety of vegetables, all of which were well grown, and very superior specimens, for which the Committee awarded a premium of \$2.00.

Best musk melons, George Cooper.

" Water melons, J. Donnellan & Co.

" Onions, J. D. Pillow.

" Winter squash, Wm. King.

Five varieties of cucumbers, grown by N. J. Goldsmith, all extra fine specimens commended. R. J. DONNELLY, Chairman.

MISCELLANEOUS ARTICLES.

The Committees on Miscellaneous articles found their duties very light, there being only a few articles entered in the department. After an examination of what was presented, they made the following awards:

To Mrs. Dr. Ripley, for a suspended cone basket, (not properly a hanging basket, but in good taste,) containing a tastefully arranged bouquet of flowers, a discretionary premium of \$1.

To Mr. J. W. Miller, for several paintings of flowers, in oil colors, a discretionary premium of \$2.

To Mr. George Fraunberger, for a moss basket of fruit, very finely arranged, a discretionary premium of \$1.

Mr. W. H. H. Barton presented several bottles of native grape wine of the vintage of 1858, but as there was no competition, the Committee were unable to judge of it by comparison.

The Committee regret that so few articles of merit, or indeed of any kind, were exhibited in this department, and hope to see a large and choice variety at a future shows of the Society.

D. D. T. MOORE, Cha'n
C. W. SEELYE, SECRETARY.

PROCEEDINGS AND DISCUSSIONS
OF THE
EIGHTH SESSION
OF THE
AMERICAN POMOLOGICAL SOCIETY,
HELD IN THE
ASSEMBLY BUILDINGS,
PHILADELPHIA,
ON TUESDAY, WEDNESDAY & THURSDAY, 11, 12 & 13 OF SEPTEMBER, 1860.

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The Gardener's Monthly—Extra.

ADDRESS

DELIVERED AT THE EIGHTH SESSION OF THE

AMERICAN POMOLOGICAL SOCIETY,

HELD IN PHILADELPHIA, PA.,

September 11th, 12th and 13th, 1860.

BY MARSHALL P. WILDER,

PRESIDENT OF THE SOCIETY.

*Gentlemen of the Society,
and Friends of American Pomology:*

By our Constitution, my official position requires me, at the opening of this session, to address you on the art or science of pomology; on the interests, progress, and present condition of our association.

In the performance of this duty, I am happy to meet you in this city of brotherly love, the birth-place of that Declaration which gave us an independent national existence; of that Constitution also, which embodies the wisdom of our venerable fathers, and is the charter by which we hold the inheritance we seek to improve, enjoy, and transmit. Here, too, by a former inhabitant of Philadelphia,* a few years later, was first exhibited the application to vessels of that invisible agent, which now propels thousands of steamers through our navigable waters, which has wrought such wonders in all the useful arts of life, and is progressing upon a stupendous scale of development. Here was organized the first society for the promotion of American Agriculture. Here, also, originated the first association for the advancement of American Horticulture, having, for one of its leading objects, the introduction and cultivation of new and choice varieties of fruit.

Most of the venerable men who were the authors of these institutions, the founders of these civil and social compacts, have fulfilled their earthly mission; but the institutions which they inaugurated continue, diffusing through the land and the world, the blessings of progressive art, of rural life, of social order, and of civil liberty. These fathers have fallen in the great battle of life; and since our last biennial session, others, more intimately associated with us in our favorite pursuits, have passed away never to return. Two of the founders of the society, who have occupied official positions from its formation, will meet with us no more.

DECEASED OFFICERS.—Andrew H. Ernst, of Cincinnati, Ohio, one of the Vice Presidents of this society, died at his residence in that city, February 13th, 1860, aged sixty-four years. He was a gentleman of foreign birth, but thoroughly nationalized; being a great admirer of American character, and a firm supporter of American institutions. He was a pioneer and champion of our cause in the northwest section of our country; a gentleman favorably known and highly appreciated by all who knew him for his pomological knowledge, for his characteristic modesty, for suavity of manner, and for his eminent Christian virtues.

* John Fitch, in 1788. To his steamboat *Perserverance*.

We have also to mourn the death of Benjamin V. French, of Dorchester, Massachusetts, a member of the Executive Committee, who died April 10th, 1860, aged sixty-eight years. Mr. French was ardently devoted to the cause of terra-culture, in its most comprehensive sense; and has, for many years, held important official positions in the Agricultural and Horticultural Societies of his State and country. Few men have been more interested in the cultivation of the soil, and few have been so strongly attached to rural life and rural happiness. Even to the close of life, these were his most cherished objects.

In reflecting on the usefulness and example of our departed friends, on their labors and contributions to the cause of pomology, their honorable life and peaceful death, we shall ever retain a high appreciation of their worth. We cheerfully accord to their memory our gratitude for their valuable services, and enrol their names among the benefactors of mankind. We mourn the loss of these worthy associates, but our institution still lives, and other friends survive to co-operate with us in advancing the cause so dear to our hearts.

EIGHTH SESSION.—This is the eighth session and twelfth year of our association. Much has been accomplished since its organization, but how wonderful the improvement in every branch of husbandry, and in all that concerns the progress of society, since the formation, in this city, of the first association for the promotion of rural art, just three quarters of a century ago! It is profitable to look back occasionally, and see what has been achieved in the past.

Most sincerely do I congratulate you upon the general interest now awakened in fruit culture—on the zeal, enterprise, and industry of cultivators in the acquisition and production of new and choice varieties—on the multiplication of local associations and publications, all laboring with us for the promotion of pomology.

In this presence, and on this occasion, I have no speculations or doubtful theories to promulgate. We have had already enough, and perhaps too many of these for our own benefit or others. What we especially need, are the results of the ripe and united experience of the best cultivators, guided by the deductions of science. Some of the recommendations in former addresses I desire to reinforce, for it is "line upon line, and precept upon precept" that makes a deep and lasting impression. New topics, as they arise, are entitled to respectful consideration, and the discussion of them will undoubtedly elicit important information.

REVISION OF CATALOGUE.—Great advantages have already resulted to the country and the world from the catalogue of this Society, which classifies our fruits, registers those suited to general cultivation; those adapted to particular localities; those which promise well; and those that are pronounced unworthy of cultivation. It has been our custom on former occasions to enlarge and revise our General Catalogue by a discussion and vote on each variety.

It will be remembered that, at the last biennial session, the Chairman of the General Fruit Committee recommended the appointment of local committees in each State and Territory, charged with the duty of producing and submitting to a special committee a list of the fruits cultivated in their respective localities.

From these local catalogues, embodying the ripest experience of the best cultivators in all parts of the country, it will be easy for the Society, at its next session, to transfer fruits to the corresponding department of the Society's General Catalogue.

I therefore respectfully recommend,

First, That no revision of that portion of our catalogue embracing fruits for general cultivation be attempted at this meeting.

Secondly, That local committees be appointed, each of which shall be charged with the duty of preparing a catalogue of the fruits in its own locality, on the same general plan as the Society's Catalogue.

Thirdly, That a special committee be appointed at this time, to whom these various local committees shall make their report during the year 1861.

Fourthly, That the Special Committee be charged with the duty of compiling, from these local catalogues, and from the present catalogue of our Society, full lists of all the fruits therein named, properly classified and arranged, with due regard to nomenclature and terminology, and shall submit the same at the next biennial session for its consideration and action. This labor, well performed, will redound to the honor of American Pomology.

These recommendations are not intended to preclude a discussion of the merits or demerits of any variety now on our catalogue. On the contrary, they call for a full and free expression of opinions in respect to any department of the same, as this may aid the labors of the several committees. Neither are they intended to preclude the addition of varieties to the list which *promise well*.

If this association had rendered no other service except to give to the world its present catalogue of fruits, it would have fulfilled an important mission; but it has done more; it has encouraged and originated many kindred associations, has brought together experienced cultivators, and made them teachers of each other.

By this action and re action of mind on mind, many of the first principles of judicious cultivation are now fully settled and well understood. Among these are the following, to which I will now only briefly allude, as they have been more fully considered in former addresses:

CULTURE OF TREES.—1. The healthful development of fruit trees, as of other living substances, depends on the regular reception of a certain quantity of appropriate food. This food, whether derived from the earth, air, water, or other natural elements, is conveyed through the medium of the atmosphere and the soil. While we have only an indirect and imperfect control of the atmosphere and other meteorological agents, the Great Arbiter of Nature has committed the *soil* directly to our care and treatment.

2. To this I may add the general sentiment in favor of thorough and perfect drainage, beneficial to all cultivators, but indispensable to the fruit-grower.

3. Not less uniform is the experience of the salu-

tary effects of a proper preparation of the soil for fruit-trees, both in the nursery and in the orchard.

These principles are settled in the minds of all intelligent fruit-growers; but they need to be often promulgated and enforced. It should be equally well understood that success depends upon the adaptation of the habits of the tree to the constituents of the soil, the location, and aspect or exposure. A disregard of this principle, and the fickleness of seasons, are among the most common causes of failure, not only among inexperienced cultivators, but among professed pomologists.

More attention should be given not only to the location, but especially to the aspect of trees. A common error is to disregard the time of ripening. We plant our early fruits in the warmest and most genial locations. These should be assigned to our latest varieties. For instance, we, at the north, have too often placed our late fall and winter pears, like *Easter Beurre*, or *Beurre d'Arenberg*, in northern aspects and exposed positions, where they are liable to injury by the gales and frosts of autumn, whereas we should have given them a southern aspect, and our most fertile soils to bring them to perfection. The most favorable locations are not so indispensable to our summer fruits, which mature early under the more direct rays of the sun, and in a much higher temperature. This rule may require modification and even reversion to adapt it to the south or southwest portion of our country. And here I cannot refrain from expressing the earnest hope that our local catalogues may be framed with a wise reference to this principle, and that the day may not be distant when the Society's Catalogue shall designate the particular locality, aspect, and soil, adapted to each variety of fruit.

But, however important these considerations may be, the subsequent cultivation of trees must receive a passing notice, even at the risk of repeating some opinions of myself and others, which are already before the public.

The sentiments contained in the communication of Mr. J. J. Thomas, at our last session, against the growth of any other crop in orchards, especially against relying upon small circles dug around trees in grass ground, as a method of culture, deserves to be held in perpetual remembrance. Equally injurious, in my own opinion, is the habit of deep digging or ploughing among fruit trees, thereby cutting off the roots, and destroying the fibrous feeders, which frequently extend beyond the sweep of the branches. However necessary the practice may be of cutting off roots in old orchards, in the process of renovation, it should be carefully avoided in grounds properly prepared, and where the trees are in a healthy or bearing condition. From experiment and observation, I am persuaded that working the soil among fruit trees, to the depth of more than three or four inches, should be carefully avoided. The surface should only be worked with a hoe, or scarifier, for the purpose of stirring the soil, and keeping out the weeds. Thus we avail ourselves of the advantages of what, in farming, is called flat-culture, at present so popular. For the same reason, manure should not be dug in to any considerable depth, and some of our wisest cultivators now recommend its application on the surface. So favorably impressed with this practice is the Massachusetts Board of Agriculture, that it has ordered a

series of experiments with cereal grains and other products in the application of manures on the surface as compared with specified depths beneath it.

The practice of surface manuring is no novelty of our day. An eminent cultivator of fruits, nearly two hundred years ago, said, "Manures should be applied to fruit trees in the autumn upon the surface, that the rains, snow, and frosts may convey the elements of fertility to the roots;" and "that, by this method, one load will do more good than two used in the common way of trenching in to the depth of one foot." Other distinguished cultivators and scientific gentlemen recommend the same practice. Hence we are of opinion that our orchards and gardens should be manured in the autumn, and on the surface, so that the manures may be thoroughly decomposed, made soluble during the fall and winter, and suitable for the nourishment of the tree early in the spring.

In the history of this art, as of most others, it is wonderful how human opinions change. What were once considered as fundamental, are now rejected as unphilosophical or injurious; and those once rejected are now adopted as wise maxims. The doctrine has prevailed, from the time of Columella and Varro, that manures should not be exposed to the air, but should be incorporated with the soil as soon as laid out; whereas, we have now the opinion of cultivators and chemists in favor of exposure to the air and other external agents of decomposition, and that it is not a source of nutrition to the plant until it is thoroughly decomposed. This opinion is certainly corroborated by the practice of skilful gardeners in all past time, who will never use green manure in the potting or cultivation of plants, and only that which has become old and fine.

NEW NATIVE FRUITS.—Changes of opinion have also taken place in regard to the acquisition of new sorts of fruits. Formerly we looked to other countries; now we rely more especially on our own seedlings for the best results. When we reflect upon the great number of new varieties which have, in our time, been raised from seed, and the progress which has thereby been made, no apology need be offered for repeating what has been said in former addresses in commendation of this branch of pomology. It was my first, so it shall be my continual and last advice: "*Plant the most mature and perfect seed of the most hardy, vigorous, and valuable varieties, and, as a shorter process, ensuring more certain and happy results, cross or hybridize your best fruits.*"

What wonders this art has already accomplished in the production of new and improved varieties in the vegetable kingdom! How much it has done for the potato, the turnip, and other vegetables,—producing, from a parent stock of inferior grade, numberless varieties of great excellence! How it has brought forth, from the hard, acrid, and foxy grape of the woods, the delicious varieties that are now obtaining notoriety and extension; from the bitter almond, the luscious peach and nectarine; from the austere button-pear of the forest, the splendid varieties that command our admiration; from the sour crab, the magnificent apples which now constitute the dessert of our tables; from the wild raspberry and blackberry of the hedge, from the native strawberries of the pastures, those superb varieties which

crown the tables at our exhibitions. We believe it is now admitted that our native varieties are more hardy, vigorous, productive, and free from disease than most foreign sorts. Thus we have seedling gooseberries free from mildew, and pears that never crack. Why can we not breed out the black wart from the plum? It has been suggested, by a gentleman of great knowledge, that, by taking the common wild plum, the *Prunus Americana*, of which there are several varieties, varying in color, size, and flavor, we may produce kinds not subject to disease, if judiciously crossed with our best garden sorts; or, if bred between themselves, we might perhaps add new varieties to our species of cultivated plums, which would be healthy, productive, and delicious. This suggestion is certainly worthy of consideration and experiment.

Let not this recommendation, however, in regard to cross-fertilization, discourage the sowing of other seeds, because they have not been artificially impregnated by the hand of men, for they may have been fertilized by the wind, or insects conveying the pollen of one variety to the style of another. In this way have been produced most of the superior sorts of American fruits. How extensive and inviting is the field here opened even to the most common fruit grower, who, practising upon this principle through a series of years, can hardly fail to produce some good fruits, although he may not be acquainted with the higher and more delicate process of artificial impregnation. But infinitely superior and more promising is the sphere of enterprise which opens before the scientific pomologist. It is broad as the earth, free as the air, rich as the land of promise. In his hands are placed the means of continual progress without the numerous uncertainties which must ever attend accidental fertilization. He has the sure guide of science, which never misleads her votaries, but elevates them from one degree of excellence to another towards absolute perfection. By these processes, new varieties are multiplying with unparalleled rapidity throughout our country. We rejoice in the intense zeal which has been awakened in this pursuit. It augurs well for the future, whether prompted by the desire either of fortune or of fame. But the spirit of adventure, thus awakened, needs occasionally a little wholesome discipline, lest it foster an undue reliance on immature experience, and tend to quackery, imposition, and fraud.

While we refrain from all personal reflections, we cannot forbear exhorting all, and especially the officers and members of this association, to increased vigilance and caution in the recommendation of novelties, until they have been thoroughly tested by competent judges. As it is human to err, so it is natural to be partial to one's own offspring and friends, and this partiality often sways the judgment of honest and good men.

But a more common and serious difficulty under which we labor, is the promulgation of seedlings by individuals and associations that have not the information requisite to form an intelligent, and therefore reliable judgment. Another evil which increases with the mania for what is new and rare, is the exposure for sale, by flaming advertisements and speculating agents, of old varieties under new and specious names, varieties which, like Jonah's gourd, were known in their day and place, but have long been consigned to oblivion.

As in the past, so in the present and in the future, let it be our purpose and practice to reject those that are worthless, to withhold our approbation from those that are doubtful, and to encourage the multiplication of those only which are of decided and acknowledged worth. Thus shall we elevate the standard of judgment, and fulfil the mission providentially assigned us. We might enlarge on this and other topics, but the brief period which it is proper for me to occupy in this opening address, restricts me to one or two other considerations.

Affinities.—I would here again recommend a more careful study of affinities between the stock and the graft. Whatever be the opinions in regard to the manner and degree of influence which the scion has upon the stock, or the reverse, the fact of that influence is undeniable. For example, we have seen certain varieties of the pear, as the Cross, Collins, and others, which would not readily assimilate with the stock, however vigorous. We have, in many instances, seen healthful trees, sicken and eventually die, by the insertion of these uncongenial grafts. So great was the want of congeniality, that we have seen the stocks throw out successive crops of suckers, and although these were frequently removed, yet the scion would refuse to receive and elaborate the sap in sufficient quantity to nourish it, and the trees would finally die. In such instances the only way to restore the health of the stock, is to remove the graft for a scion of its own or some other appropriate sort.

As I have formerly directed your attention to this topic, I have only space to embody a few general rules to guide practice.

In deciding upon affinity between the tree and graft, consider—

First, The characters of the woods to be united, as whether of fine or coarse texture, of slender or gross growth.

Second, The wood-buds, whether abundant or sparse, plump or lean, round or pointed.

Third, The seasons of maturity, whether early, medium, or late.

These suggestions will suffice to indicate the direction of thought and the kind of investigation to be pursued. A better knowledge of the subject will, no doubt, hereafter be attained, and will reveal some of the inexplicable mysteries which now attend this branch of fruit culture.

GRAPE CULTURE.—Let me for a moment call your attention to the cultivation of the grape. This is now assuming so much importance in our country that it seems entitled to special attention at this time. Its progress is indeed marvellous. Until within a few years, it was supposed that Providence had assigned grape culture and the manufacture of wine to countries in the south of Europe, and that the soil and climate of America were not at all adapted to their production. Still later, the theory was promulgated, which has not as yet yielded in full to a more enlightened judgment, that no good grape could flourish on our eastern slope. Now it is known to succeed in almost every aspect where soil and cultivation are suitable, and it is believed that no country on earth is better adapted to the extensive cultivation of the grape than the United States of America. This branch of fruit culture is yet in its incipient state, but it has progressed so far as to authorize the belief that the grape can be

grown with success in almost every State and Territory of the Union.

With the progress already made in raising new sorts, it is only a question of time when we shall have varieties adapted to almost every locality. Thousands of cultivators, scattered over our extended country, are each of them raising new varieties from seed in the expectation of success. While some of them may be valuable, many must, of necessity, be failures, having been originated from natural and accidental impregnation, without any settled or philosophical plan. The laws of reproduction in this department are the same as in other branches of the vegetable kingdom. For instance, in northern latitudes, the great object should be to produce good kinds which ripen early and are perfectly hardy. To procure these from the limited number of our native grapes, we must resort to the art of hybridization, taking for the parents those sorts which contain the characteristics we desire to combine. This work has already been commenced in good earnest, and is progressing rapidly in the hands of many practitioners. Illustrations have occurred under our own observation, proving the immediate and happy results from the crossing of native with foreign grapes. A gentleman in my own vicinity has taken, as the mother parent, the *Vitis Labrusca*, a common native grape, and crossed these vines with the pollen of the Black Hamburg, and the White Chasselas grapes. Of forty-five seedlings, thirty-seven have borne fruit. All progeny of these has proved perfectly hardy, and have stood without protection for several winters, where the Isabella and Diana have been much injured. Of the seedlings produced from impregnation of the Black Hamburg, most of them inherit, in a good degree, the color and characteristics of the male parent; while those fertilized with the White Chasselas, all were of a reddish color, intermediate between the natural colors of the parents. Thus we see the positive and powerful effect of the art of hybridization in the hands of scientific cultivators, who can, in a measure, control the process of reproduction, and render it subservient to their purpose.

But, to prevent discouragement and sustain perseverance, it should be remembered that in conformity with the experience of Van Mons, Knight, and other pioneers, a seedling does not attain to perfection at once. To arrive at its culminating point of excellence, it must often be fruited for several years. Others maintain that a number of manipulations are requisite to bring a new variety to perfection. Some varieties attain this much earlier than others, and the same variety reaches it earlier or later in different localities. Hence an originator should not reject a seedling of some apparent good qualities simply because it may have some defect; for this may result from local or external influences. He should, therefore, cause it to be transferred for trial to a different soil and climate. Even grapes of acknowledged excellence are improved by this change. The Concord and Diana of Massachusetts, valuable as they are at home, acquire a superiority in the south and southwest unknown in their original locality, even rivalling the Catawbas and Isabellas of those sections.

It seems to be a general law of nature, illustrated in our forests and fields, that some trees and grains will flourish in nearly all localities and latitudes,

while others are particularly restricted to certain districts. By this arrangement an all-wise Providence diffuses blessings over our country and climate. Each has its appropriate share in the general munificence of the Creator, together with luxuries peculiarly its own. The grape is common and almost universal; but the varieties of this fruit are mutable and local, capable of endless adaptation by human skill. Hence this field for the culture of the grape, upon the borders of which we have scarcely entered, is to the intelligent cultivator, full of promise and reward.

While it was formerly supposed that the peculiar, and, to many, the disagreeable aroma of our common grapes disqualified them for the production of choice fruits and wines, it has been proved, we think, beyond a reasonable doubt, that the characteristic designated, by way of contempt, as the fox or polecat flavor, will hereafter constitute one of the chief excellencies of our new varieties, when, by the art of hybridization and civilization, this flavor shall have been modified and changed, by alliance with other grapes of excellence that are destitute of this quality. This flavor, thus improved, seems destined to form a distinctive characteristic of an important class of American grapes, even to give them a marked superiority over such varieties as the Black Hamburg, Sweetwater, and such other foreign sorts as are destitute of any especial aroma, and consist mainly of sugar and water. It may yet make our seedlings rivals of the Muscats, the Frontignacs, and other highly flavored foreign grapes of the Old World. Multitudes of seedlings, deriving their origin from our native vines in various stages of civilization, and with a special view to this result, are now on probation in various parts of our country. From these must necessarily arise, in coming time, many sorts of superior quality.

What if the desire for new varieties has become a mania? What if it produce, here and there, personal sacrifices and disappointments? What if, from want of skill, or from adverse causes, many inferior or even worthless varieties are produced? The result is certain. The time fast approaches when the ultimate good will be realized, and when America will become the great grape-growing and wine-producing country of the world.

I admit, in respect to all our fruits, that as the number of varieties increases, more judicious and severe discrimination in the selection of very valuable, and in the rejection of comparatively inferior varieties, will be demanded. This is the lesson which past progress teaches us. What would the gardener of fifty years ago have said, if he had been told that his favorite Bon Chretien, Muscats and Blanquets, were soon to be thrown into the shade forever? He would have shown as much incredulity as some of our modern amateurs do when we talk of future progress. The Duchesse d'Angoulême, the Beurré d'Anjou, Doyenné Boussock, Beurré, Supefin, Bartlett and Seckel, had not revealed to him the vast extent of improvement in fruits which was to be made. What was true, in this respect, fifty years ago, is equally applicable to present varieties. The impossible has no place in the history of progressive science, whether relating to natural arts, or to mechanical industry.

CONCLUSION.—But, gentleman, I have occupied my share of your time and attention, yet I must beg your indulgence in a few concluding remarks.

We have spoken here, and on former occasions, of the advancement which has been made in pomology in our age and country. This is to be ascribed in part to the great scheme of Providence which has developed such stupendous results in the march of civilization and all the arts of life. Human pursuits are allied by affinities so intimate, that a remarkable discovery or improvement in one advances them all. Never before has the public mind been so profoundly moved, nor the energies of mankind so concentrated upon efforts to relieve toil, to perfect skill, to reward labor, and to multiply the comforts and blessings of life.

Truly we live in an age of transition and wonder! The invention of to-day supersedes that of yesterday, and in its turn is to be supplanted by that of to-morrow. No enterprise, however bold, adventurous, or vast, whether the construction of a railroad from the Atlantic to the Pacific; the laying of the mystic wire in old ocean's bed, or threading it through Behring's Straits and winding it around the Globe, is too great for the capital, energy, or intelligence of the present generation.

How wonderful the scale of development in modern society. The old wheel and hand loom of our mothers have passed away, and given place to the busy hum and clatter of our princely manufactories; the needle of the weary housewife, plied by day and night for clothing her family, has been exchanged for the ingenious sewing-machine, turning off its ready-made garments, and performing the labor of months in a day; the old printing-press of our Franklin, working off by the sweat of the brow only a few hundred newspapers per day, has yielded to the steam-press of our time, throwing off its twenty thousand impressions per hour; the brush of the artist patiently filling up his outline, touch by touch, through toilsome days, to the pencils of light in the hand of the King of day, picturing at a flash the image of yourself, and of all around you; the coaster creeping cautiously along the shore, dependent on wind and tide, to thousands of steamboats which now dash over our lakes, rivers and oceans, despite of current or tempest; the old stage-coach, making only fifty miles per day, to our despatch and lightning trains, running fifty miles per hour; the horse express and carrier pigeon, hailed as wonders in their time, to the electric telegraph, which, quick as thought, speaks with a tongue of fire, the languages of earth.

Discoveries, inventions and improvements equally remarkable characterize all the arts of husbandry. Witness, in place of the forked stick of the ancients, or the wooden plow of our boyhood, the improved iron plow of every model, and adapted to all kinds of soil and situation; and, still more marvelous, the Steam Plow, moving as a thing of life across the broad prairie, turning up its numerous furrows at once, and leaving behind it a wake like that of a majestic ship. Witness also, instead of the rude hook, the sickle, or the scythe of the farmer, slowly and tediously gathering his crop, our mighty mowing and reaping machine, cutting down its ten to twenty acres per day.

The great industrial pursuit which this Society seeks to promote furnishes testimony of progress not a whit behind the most favored of the arts.

Behold the improved methods of cultivation; the vast number of nurseries and orchards, springing

up everywhere, as by enchantment; the novel process of reproduction, multiplying plants in endless profusion, and as by the stroke of a magician's wand. Witness the interminable lists of varieties now in cultivation, increasing with each revolving year; the restless and anxious desire to obtain everything new and promising from whatever country or sea-girt isle it comes; the refined taste for choice fruits rapidly extending through every gradation of society; the standard of Pomology, like the star of empire rising in the east, moving still onward to the west, and exciting the attention and astonishment of mankind.

But this progress results from no supernatural power. It is rather an illustration of human capability, acting in conformity with natural laws, and in harmony with the benevolent designs of the Great Husbandman for the amelioration of society, and the display of his infinite wisdom and love, "sought out of those who take pleasure therein." It exhibits the conquest of mind over matter, the dominion of man over nature, improving, adorning and elevating her to the highest and noblest purposes of her creation.

Inspired with these sentiments, let us take encouragement, and press on in the career of improvement, ever remembering that study and experience make the man; and that for the highest attainment and the greatest success, we must depend upon the culture of the mind as well as of the soil.

"Survey the globe through every zone,
From Lima to Japan,
In lineaments of light 'tis shown
That CULTURE makes the man.
All that man has, had, hopes, can have,
Past, promised, or possessed,
Are fruits which CULTURE gives or gave,
At industry's behest."—T. GREEN FESSENDEN.

WEDNESDAY, September 12, 1860.

The Society met at 9 o'clock, A. M. The President announced the order of business to be the discussion of the list of fruits that promise well.

BROADWELL APPLE.

DR. WARDER, of Ohio, moved that it stand on the list.

BUCKINGHAM.

MR. LYON, of Michigan, moved that the Buckingham, of Illinois, or Winter, remain on the list.

COGGSWELL FORNWALDER.

MR. RUTTER, of Penna. I view it as one of our finest apples, in east Pennsylvania at least. It bears very well. I planted one hundred and twenty-five of this kind. They are now bearing. The fruit sells higher than any other. They were sold last year at one dollar per bushel. They are large, and keep well. I have had fine apples in April. It is one of the most saleable in the market but it is not equal in quality to others. I think in Pennsylvania it does well.

MR. BALDWIN, of Penna. I agree with Mr. Rutter concerning its certainty of bearing. It is a good and reliable tree; just such as we need.

MR. LYON. I have cultivated it for some years, and have found it to be a very fine apple. They are of a good size, and are fine keepers. My trees bear well, and the fruit is coming into great favor in our State. They are in demand, and are sold at good prices.

GENESEE CHIEF.

DR. WARDER. I move that it be struck out of the list. It is an apple that comes at a season when we have many others. It is a large, coarse apple; it is sour and light. It will do to cook, as it has little flavor besides its acidity.

MR. BARRY, of N. Y. I think if we reject it we should reject many others. The only objection I have is its name. It is one of the largest we have, and when ripe is of a very superior quality. It is not only a fine fruit, but a fine eating apple. I wish it may remain on the list.

MR. HARRISON, of Penna. I can only speak of its quality. With me it has been the best of fifteen or twenty varieties I have grown.

(Ordered to remain on the list)

JEFFERIS.

MR. HOOKER, of N. Y. My experience this season has been that it has proved one of the finest apples. I object to its being struck out.

DR. ESHLEMAN, of Penna. In East Pennsylvania it would seem to succeed. The trees in my orchard are bearing when twenty others are destitute of fruit. I believe it does well also in Western New York. It is very delicious, medium-sized.

MR. LYON. It is a very fine, fair sized apple.

MR. STREELE, of N. C. I wish to make a suggestion. That is, that gentlemen shall address the president. This will be according to Parliamentary usage.

MR. RUTTER. I give my testimony in favor of this apple. It originated in Pennsylvania. It is one of our finest fruits. It ripens in September, and is equal to any other we have. It was brought into notice by the Horticultural Society of West Chester. It received the first premium of five dollars in Massachusetts, and secured commendation as a seedling fruit. I only regret to say that we are not prepared to look into the list of apples recommended for general cultivation. Why are we excluded from discussing other fruits?

THE PRESIDENT. The Committee who have had this matter in hand reported to this effect, that we should confine ourselves to the list.

(Allowed to remain on the list.)

KING OF TOMPKINS COUNTY.

THE PRESIDENT. Can any gentleman say anything against it? I think it is an apple worthy of all commendation.

MR. LYON. It is not much thought of as a market fruit. It's only fault is its size. It is too large for market.

MR. BATEHAM, of Ohio. We have found that it ripens too early to be profitable with us in Ohio.

THE PRESIDENT. Does not this quality arise from soil?

MR. BATEHAM. It is the same in all soils. It is better in the Northwest part of the State. It will speck; but that is no detriment to any fruit, in my judgment.

DR. WARDER. I wish to confirm what Mr. Bateham has said. I have seen it in all soils, in sand, clay, and in limestone. We cannot yet form an opinion, but our impressions are unfavorable. It is prone to have the rot, and to decay. When we find this sentiment universal, we must draw our own conclusions.

THE PRESIDENT. I believe that it is an excellent apple in New York; other better apples abound, and we don't care to have any on our list unless they are superior.

MR. TAYLOR, of Va. It is one of our winter apples, and ripens well. It is a good fall apple.
(Allowed to stand on the list.)

MOTHER—SMOKE HOUSE.

MR. BALDWIN. The Smoke House we consider the best apple in Eastern Pennsylvania, both in regard to purely domestic purposes and for the table. We know of no apple we would prefer to it, and I should be very sorry to see it stricken off the list, as it is decidedly one of the best apples we have.

(Allowed to stand on list.)

WHITE WINTER PEARMAN—WINTER SWEET PARADISE.

MR. RUTTER. I cannot conceive how it was, or who ever proposed the White Winter Sweet Paradise, (we don't mention sweet in the designation of it, but it is sweet,) to be put upon the list of those that promise well. I have had it fruiting for the last fifteen or eighteen years, but the property on which the trees were planted, I sold some years ago to its present owner, who has cut the tops all off, which he did at last year's crops, as he did not consider it (the crop) worth anything. I do not consider it worth cultivating at all, for, when winter comes, it is used for nothing but to make cider. In the neighborhood of Lancaster, I have known in the spring of the year, during the months of March and April, quantities of this apple bought by the boys and girls, who sell them on the railroads. It is a pretty fair apple, small, rather handsome, but I think a decidedly inferior fruit to hundreds of others that have originated in Pennsylvania. How it produces in other sections I do not pretend to know, because I have not seen it out of Eastern Pennsylvania. I move it be rejected from the list of PROMISING WELL.

MR. TAYLOR, of Virginia. I object to that motion. This apple cooks better than any other grown in this portion of the State.

MR. TAYLOR, of Ohio. It is evident from the remarks of the gentleman (Mr. Rutter) that there is no difference between the two classes of apples of this species. The Sweet Paradise, which came from Pennsylvania, is a sweet apple, and very savorable, and a very good one.

(A voice, "all true.")

MR. RUTTER. I cannot be mistaken in regard to this apple, because it is a vigorous apple, and originated in or near Paradise, in Lancaster County. It is well known in that section of the country. The Pennsylvania Sweet Paradise is rather a flatter apple, with a blush on one side, and quite acid in taste. There are some more of our Lancaster County friends here, who may tell us more in regard to this particular fruit, but in Chester County it is considered a very poor apple.

MR. BARRY. I have seen that apple (the Winter Sweet) in Washington. It was very large, and I thought the handsomest I had ever seen in my life. In Columbus, Ohio, I have also seen it frequently, and always thought it one of the most delicate, eatable, sweet apples in a raw state, I ever handled. It is far superior to the Tallman Sweet, or any of our popular sweet apples. I can say nothing about its success in

Western New York, but I know in the South and Ohio it is one of the finest we have.

MR. SAUL, of N. Y. I have some knowledge of this apple; I have known it, I suppose, twenty years. The apple is correctly described by Mr. Rutter, so far as the shape is concerned, but its manner of growing I never saw: where Mr. Downing lives it has been always a fair handsome and good bearer, and, as one of the gentleman has said, one of the best sweet apples of the season.

MR. SCHLAY. I would suggest, if it be in order, that samples of the apples, under consideration, be presented by gentlemen making remarks relative thereto. (Mr. Schlay presented a specimen of the Winter Sweet Pearmain as grown in Ohio and Pennsylvania.)

MR. ESHLEMAN. There are two sweet Paradise Apples, both originating in this State. There can be no difficulty in distinguishing them, from this fact, that the one is ripe and past at this day, and the other is a winter apple; so, of course, the one before us now is not a winter apple. We consider it a very superior fruit in Lancaster County, where we call it the Autumn Sweet Paradise, while the other we call the Autumn Paradise.

MR. BALDWIN. It is a very slight bearer on my place, and I believe that to be the general character of the fruit.

(Ordered to remain on the list.)

WINTHROP GREENING, OR LINCOLN PIPPIN.

THE PRESIDENT. The Chair would state that this apple was introduced upon the list of those which promise well, six years ago, at a meeting of the Pomological Society in Boston, on motion of a gentleman from the State of Maine, who gave it a very high recommendation as an apple suited to that region. I do not know that I have heard of it in any other section of the country, that is the reason that it was placed here, rather as a matter of courtesy to the State of Maine. It is undoubtedly a very good apple.

SUMMER SWEET PARADISE.

MR. LYON. I suggest that the Summer Sweet Paradise be added to the list of those which promise well. I have cultivated it for several years. It is quite a large, very fine, sweet apple. Its color is yellow.

(It was added to the list.)

MR. HOOKER, N. Y. I hope that no gentleman will introduce a fruit here that does not feel confident that it is worthy of general cultivation.

MR. BATEHAM. I wish to know whether the Summer Sweet Paradise and the Autumn Paradise are one and the same fruit, or whether they are different. I wish to know what we are discussing.

MR. SCOTT. The names of these two fruits are too similar.

MR. PRINCE. These two names apply to the same fruit.

(THE PRESIDENT exhibited a specimen,) this is the Summer Sweet Paradise recommended by Mr. Lyon.

MR. SAUL. I know this apple. I pronounce it a first rate one.

(Added to the list.)

BEN DAVIS.

DR. WARDE. I have not a specimen with me to show you, but it is useless for me to say much to you

about it. If any gentleman here knows much about it I would like to hear his mind.

MR. BERCKMANS. I am acquainted with the apple. It is pronounced as a fine keeping apple in our country, where winter keeping apples are not very plenty. As a grower, it is good. It is rather an acid apple, of medium size and fair quality.

MR. NOBLE. Is this apple called the New York Pippin in some sections?

THE PRESIDENT. No, it is not.

DR. WARDER. I move it be added to the list.

MR. BARRY. When such a fruit as this is brought up, I, like many others, feel embarrassed in regard to placing it on the list. My impression is, that where an apple is not well known but to one or two persons in this convention, it would be very well to hear a description of its qualities and leave it be on record and not add it to the list of those which promise well. According to our own rules, it ought to be known well, in several districts of the country. I think therefore when an apple like this is known to only one or two persons, it would be well that those persons should give their opinions, and let their statements go before the public, and thus give the subject all the justice that can be done to it.

THE PRESIDENT. Those are my views, and it is conformable to our previous practice.

DR. WARDER. I have a list of apples here which is of considerable length. It contains names of those I consider worthy of being placed upon the list of those promising well. If we wait until these apples struggle their way through their native woods, they will never be put on that list. We have instances enough to show the truth of my assertion. Take the "Cooper apple," that cannot live out of its naturally limited kingdom. There is an instance of an apple, which for fifty years has been cultivated upon, and is absolutely necessary to every household on the Muskingum River, but is scarcely ever found away from that river. The Society did me the honor to place the Buckingham which was not known to any other member of the Society upon the promising list, and in consequence of that kind action, I have been led to gather specimens of many valuable fruits throughout the south and west, hoping to have them similarly treated. The gentleman who preceded me alluded to the discussion. Who reads the discussion but a favored few, who receive the Biennial Report for the price of their membership, two dollars per year. The list for general cultivation and that of promising well are common property; they are published in every newspaper in the different sections of the country, and therefore, I would have certain fruits that promise well put in one of those lists, that they may have, not only a local reputation, but a certain degree of public notoriety. If this course runs counter to the rules of the society, I will fold up my list.

THE PRESIDENT. There is certainly no objection to adding to the lists those fruits well vouched for by gentlemen having a sufficient knowledge of them, such as Dr. Warder has already communicated to us in relation to certain varieties, although those kinds have applied to his own region.

I understood Mr. Barry to intimate, that in cases where the variety was somewhat less known, the opinion of gentlemen relative to it should be recorded, but the name of the variety should not be placed on the list of promising well.

(The consideration of the Ben Davis was here resumed, when)

DR. WARDER said: As Mr. Berckmans is well acquainted with this apple, more so than myself, and as he does not highly recommend it, I ask leave to withdraw the name.

THE PRESIDENT. There is no necessity for withdrawing this name. The opinions of gentlemen speaking to the subject will be placed on the record, which action I believe meets our wishes in the settlement of the question.

MR. CUMMINGS. We have no description of the apple under consideration. I would like to hear some of its characteristics.

MR. BERCKMANS. The Ben Davis is an apple very well known in Kentucky, from which State I came. Mr. Downer introduced it. I have had it in cultivation four years. The fruit is not yet ripe. From other sources, I have collected some information in regard to it, and all those who have tried the apple recommend it as very good, especially as a winter keeping apple. The size is medium. It is rather a flat apple with a red cheek and striped. As to its quality it is fair, not of the first order. The tree is a fine grower, and I move that it should be recommended for cultivation.

DR. WARDER. I would ask if it has any synonym?

MR. SMITH. I wish to make a suggestion in relation to those fruits recently introduced by members of this convention. It seems to be desirable to get certain fruits before the public to be noticed by them, for unless so introduced, they will be unaware of their existence. I would suggest whether it would not be well to recommend certain fruits for trial.

THE PRESIDENT. That is precisely what the list entitled "promising well" is intended for, simply to put those fruits on probation, as it were.

PRESS EWING.

DR. WARDER Introduced the Press Ewing as another of Mr. Downers' apple. Mr. Bergman probably knows this apple better than myself. It is globular, yellow green with alternate stripes. It has a good deal of yellow flesh and plenty of juice; is kept very soundly and well in winter. Its season is midwinter; is grown on the borders of Tennessee.

Some of the apples I have presented here I have never seen on the tree, and this is one of them. The tree is a fine grower.

MR. BARRY. I think when we have only seen a single specimen of an apple, and have not seen it on the tree—its bearing or hardness, those qualities actually necessary to give value to any fruit—it is hardly worth while to introduce it here.

There is a difficulty about this thing that some people do not comprehend. An apple or fruit is brought here before this convention by gentlemen who have just seen a specimen. It is spoken very highly of, and then a great many persons catching the contagion, run after it to get specimens, which by and by having obtained, they get disgusted, and thus are led into much trouble. I think that unless gentlemen have a full knowledge of the tree and fruit, and can conscientiously come forward and recommend the article to cultivators for trial, that they ought not to bring it into notice. I am willing to take a fruit on the recommendation of Dr. Warder; but because I have only seen a specimen of it, that is no reason why I

should now approve of its qualities. Nor does that fact justify me in coming in here and giving it a place in our catalogue. It would seem to me that if every gentleman in this room would place on this catalogue the fruits which they have seen or tested, we should have a list longer than could be contained in the Biennial Report.

That is what I want to avoid in making the remark.

MR. REITER. In looking over the list of the actions of former conventions of the Pomological Society, I find thirty-six apples recommended for general cultivation, and in turning to the list we have just gone over, I enumerate twelve or sixteen more recommended for trial. Now if forty-eight kinds of apples are not enough for any man who intends to plant an orchard of one hundred trees, I do not know what a man wants in this world. There may be other apples, but it seems to me we should have some intelligible stand point, and that stand point, speaking politically, would be, that we should not introduce nor recommend an apple, unless it have some superior qualities, or were superior to some we had heretofore recommended—unless it stood a head and shoulders above any thing else we have recommended. You may take up your catalogues of nurserymen all over the country, and see two, three or four hundred kinds of apples there laid down. Talking about introducing an apple when but one gentleman has seen it! and when we have a list of thirty-six specimens "recommended" to twelve "for trial." Now, let us rest here, and see whether those which have been recommended all over the country heretofore, will answer. I would recommend the suggestion made by the Chair, and adopted by the committee, that a committee be appointed who will take the list that has been recommended, and examine any fruits the gentlemen here may choose to speak of. Let us wait until we get the action of that committee reported two years hence, and rest upon our oars. Let us take this list of forty-eight apples recommended for culture and trial and rest upon them. Unless gentlemen have some apples of very superior qualities, which he can attest, let them be held back.

MR. STEELE. It occurs to me, that if there are thirty-six varieties recommended for general cultivation, it might be very well to have more than a hundred for trial. I think a fair proportion would be, that if thirty-six of cultivation, at least one hundred are worthy of trial. Does any gentleman, who wishes an advancement in the science of Carpology—I beg pardon for the use of that word—desire to restrict the amateurs in this country, to twelve varieties of those that promise well for trial. I believe in progressiveness; and it occurs to me, that if we really desire to get what are the best fruits to be found in the different sections of the country, we are obliged to call attention to those different varieties that command approval in different sections of the country. Let them go elsewhere, and the probability is, that they may supersede a number of those varieties recommended for general adoption. I believe it a matter of policy, to call attention to these things, in as emphatic a manner as we can; by this means, the attention of those interested in this matter will be arrested. I know it to be the fact, as does every one who has paid attention to the subject, that more than half of those recommended by this society for cultivation, are utterly worthless in one-half of the geography of this Union. I am speaking particularly

of Winter Paradise. But I think it is to the interest of gentlemen cultivating the Winter Paradise—or apples appertaining to this parallel of latitude, that whenever the winter apple supposed to have originated in a latitude further south, they should examine it well, for it may be that it will be of great service to them hereafter in winter varieties. I believe the very apple to which attention has been called by my friend from Ohio, will be a very excellent apple in portions further north than Cincinnati.

MR. HARRISON. I would suggest, not wishing to endorse any thing said in regard to new varieties which have come under the observation of only a few of our members, it should be recommended for trial. Of the three classes of apples, only two have been published, the third class being reserved for trial. Specimens are certainly worthy of trial, while it is at the option of the society to afterwards adopt or reject them. But in placing samples on the list for trial, the society merely recommends them, in the same manner as would one gardener recommend a fruit to another.

THE PRESIDENT. The Chair would simply state what he believes to be the intention of this congregation. It is to elicit information from the various sections of our country, allowing every gentleman, if he has any particular knowledge in regard to any special fruit, to state that knowledge. If his description of the article entitles it to a very fair character, we shall all be anxious to try it. This course is alluded to as the best to be adopted, in order that we may obtain a knowledge of the fruits being disseminated throughout the length and breadth of the land. A record is made of the various statements in relation to certain kinds of fruit, and when we come together, two years hence, as in the past, we shall know more of them.

FALL WINE.

DR. WARDER. I offer, to be placed on the list of promise well, at the option of the society Fall Wine. Mr. Downing has had this specimen for thirty years, and yet it is not on our lists, in our book or in any eastern book. It is first rate; a good bearer, fine grower, and very fine apple in September, for cooking, for the table, for the market, or anywhere.

MR. DOWNING. I believe it one of the best fall apples we have.

MR. BARRY. I know it to be a very fine apple.

MR. LYON. It is inclined to be specked, and is of an uneven size.

DR. WARDER. In our markets, it is as even-sized an apple as any we have.

MR. LOOMIS. We consider it the finest apple of the season in our State (Indiana.) A regular bearer, and good for all purposes for which apples may be used.

(The Fall Wine was then placed on the list.)

COMMON PEARMAN.

DR. WARDER. I move to add the Common Pearmain. It is an excellent keeper; will withstand the roughest treatment. It may be kept without any difficulty until March, and is good until May. One of our very best Southwest keeping apples; not of the very highest quality, but infinitely better than anything I have seen, from Boston to Virginia, in the Spring season of the year, when we generally are obliged to undergo the mastication of grindstones.

MR. TAYLOR, (Va.) I would inquire if that specimen apple was not grown in Virginia?—(Pointing to

the specimen produced by Mr. Warder.)—It is there a heavy bearer, and scarcely any fault can be found with it but that it is only used in harvest time and at the last of April.

DR. WARDER. This specimen is from Staunton, Va. I have others from Indiana.

MR. LOOMIS. It is cultivated to a very great extent along the Ohio river, and considered valuable as a long keeper. Personally, I am not acquainted with the fruit.

MR. BATEHAM. I have seen it in Ohio; good in the Spring, though not very.

(The Common Pearmain was then added to the list.)

EARLY JOE.

DR. WARDER. I would propose a sample, with which many here are doubtless familiar—the Early Joe.

MR. LYON. Sometimes a little specked; otherwise very good.

(The Early Joe was not added.)

FATHER ABRAM.

DR. WARDER. I propose the Father Abram.

MR. ROBEY, of Va. It is considered as a shy but regular bearer; keeps well; has a rich, spicy flavor; season, late winter; not fit to eat before January, lasting generally until March. Of moderate size, though inclined to smallness; a fine grower, and very erect.

MR. STEWART. Has been in our country (Illinois) for many years; and abound largely in the Spring, throughout Central Illinois. Too small for market, with an indifferent flavor; very insipid.

(The Father Abram was not added.)

WILLOW TWIG.

MR. WARDER. I propose the Willow Twig, known also as the Willow, or James River. A large-sized apple; one of our best keepers and market fruits. Thousands of dollars have been brought back for years and years, by those who have taken this article, in large quantities, down the Mississippi. It is known all along the banks of the Ohio, though, I believe, of Southern origin—from Virginia; of fair size. The tree looks like a wilding, and a good bearer, though not pretty. Mr. Robey tells me he considers this one of the best winter apples. We look upon it as very good for cooking purposes, but not for table. The wiry character of its stalks and branches gives it its name.

MR. BISSEL. It has been kept in our neighborhood (Pittsburgh) for two years; a very fine flavored apple and a great bearer; of equal temperament.

MR. STEWART. It is considered by market dealers as our most valuable fruit of the apple species. It will keep twelve months; hangs on the tree until late in the season; bears a uniform crop; and when properly packed, will keep all winter, without loss. It is saleable in the last of June, and about the beginning of July.

(Placed on the list.)

LIMBER TWIG.

DR. WARDER. I introduce the Limber Twig; an ugly customer; very unprepossessing in its appearance, but everything said in regard to the Willow Twig—its keeping properties, etc.—may be said of this fruit. It belongs to the class known as Spring apples.

MR. STEELE (N. C.) I think that my earliest munching of winter apples is intimately associated with the old Limber Twig—the first winter apple I ever heard of. When pretty good, it is solid, there being some alluvial in its nature, and grows at a level of 36° above tide-water. It has not the flavor other apples have, but when you take into consideration its keeping properties, you will find this fault overbalanced by something favorable.

MR. ROBEY. The Limber Twig is considered one of our best winter apples for keeping; a regular bearer; a long keeper; one of our best cooking apples; it is juicy and rich; kept in the usual way, it becomes spongy. They sometimes grow to a very large size.

MR. BERCKMANS. I agree in the remarks made by Mr. Steele; it is one of the greatest winter apples we have. It has been brought from the district Mr. Steele is from, and it is the only species I have frequently found in the markets of Charleston and Augusta. I have seen the apple in the month of May and the end of April, kept sound; and that is a very sure guarantee that it is a good keeping apple.

MR. CUMMINGS. I thought when I first saw the apple it was the finest looking specimen I had ever seen. I was so impressed with its beauty that I rode to a nursery to obtain more than a single specimen. I, however, know nothing of its qualities.

MR. TAYLOR (Va.) I have had it in Virginia, and know that it is grown very well in Illinois. The great objection to it is its property of getting spongy during the winter months. You will not find it plump and sound in the spring. If you stow it away on the floor of a room or like place, it will dry up and wither. It requires lying on the ground for preservation.

MR. ROBEY. We keep it in sand, in which material it is preserved. It bears well.

MR. BERCKMANS. I move this apple be called the North Carolina Limber Twig, for the reasons which have been stated.

(The motion was not agreed to.)

(The Limber Twig was then added.)

THE BONUM.

MR. STEELE. I present an apple which is known as a seedling of North Carolina, coming from one of the central counties of the State. It was first called by the gentleman who named it—probably from the fact that he wished everybody to know that he had been at a Latin school in his time—the *Magnum Bonum*. Several gentlemen in New York tried it. Mr. Westbrook, of my own State, has had several specimens on exhibition frequently. Dr. Warder tried it, and I recollect the eloquent smack of the lips he gave after tasting it.

MR. LYON. It strikes me that specimens of this apple I saw two years since were very beautiful.

MR. STEELE. Those the gentleman (Mr. Lyon) saw, were seventy-five per cent. (probably) larger than this one. The trees are very good bearers and growers, and very hardy indeed.

MR. ROBEY. One of our best winter apples.

MR. BERCKMANS. In Georgia, it is not a winter apple.

MR. STEELE. It is only a September apple with me.

MR. ROBEY. With me, it is an early winter apple.

(Placed on the list.)

STANSILL.

MR. STEELE. I present an apple said to have originated in the county of Stansill—a name which I conferred upon it. Some of them are almost green; the blush somewhat redder than on that specimen. The tree is a very beautiful grower—a pretty tree—and very early bearer, and worthy the apple list. There is an enlargement of the fruit spur—more so than any apple I know of. It is yellowish in flesh; of very good quality indeed; is a capital apple with us in the month of January. It is well tasted, and the earliest bearer I know of.

MR. BERCKMANS. Mr Steele has sent me several specimens, which I have planted. It ripens in the month of July, and until ripe, remains sound on the tree.

(On motion of Dr. Warder, placed on the list.)

THE CHAIR. Gentlemen will bear in mind that we are here representing constituencies; and their opinions should be considered as coming from their respective localities

NEW YORK PIPPIN.

DR. WARDER. I present the New York Pippin, known in Arkansas as the Kentucky Streak, and along the Ohio river, particularly on the Kentucky side, as the Carolina Red Streak; in which place it is of a beautiful oblong, conical shaped appearance; handsomely colored; a good keeper.

MR. SMITH, (N. Y.) I have known it as a beautiful conical-shaped apple; highly polished, with a fine bright rind.

MR. STEWART. I concur in all Dr. Warder has said in regard to the New York Pippin. We have cultivated it in our section of the country, under the name of the Red Pippin. I have met it all through Missouri, under the name of the Victoria Red, and I find it one of the best growers in the nursery and orchards, and one of the hardiest trees, and one of the most profitable and saleable apples. It is cultivated largely, and finds first-rate sales.

MR. BYRAM, (Ky.) The history of that apple, I think, is in this wise: It was introduced into Kentucky from this city by one of the Allens, who saw it in the markets of this city, and was so well pleased with it, that they introduced it as I have stated, taking the name of the New York Pippin, at the same time, by which name it was known here.

MR. LYON. I received, by way of Indiana and Kentucky, some years since, what appeared to be a very good apple—the one under consideration—though I have another superior to this.

MR. NOBLE (Pennsylvania.) I never saw any specimens of this apple. I merely wish to ask whether this was, a year ago, the Ben Davis. It is so stated in some of the periodicals of that time.

DR. WARDER. It is not the same. A pomological body, though quite a subordinate one to this, met at Bloomington, Illinois, last winter; and after proper consideration, they agreed to call this fruit the Carolina Red. I move that that name be given to it now.

MR. BARRY. In the case of an important apple like this, I would inquire whether it would not be well to refer it to the Committee on Synonyms, in order that they may, between this and next session, investigate its history and find its real name.

(The nomenclature of the apple was referred to the Committee on Synonyms.)

ROME BEAUTY.

MR. BATEHAM, (O.) I would like to hear something about our famous apple—the Rome Beauty. It is exceedingly popular in my half portion of our State, and in adjoining States.

MR. BARRY. I think the Rome Beauty is very handsome; as seen in specimens from Ohio. It is said to be an apple of second, or not more than third quality; very handsome and productive.

MR. BERCKMANS. It is an apple of second quality only; cultivated in our section on account of its beauty. It is an August apple with me.

DR. WARDER. I have no objection to its going on the list of Promise Well, having seen a sample of very good character. Though it has no stem—for when you see apples come to an exhibition without a stem, you may be sure the apple is either bad, or comes from a very poor pomologist—it is a very good apple.

(The Rome Beauty was not added.)

WHITE PIPPIN.

DR. WARDER. I would introduce the subject of the White Pippin.

MR. BATEHAM. I was required by the Chairman of the Fruit Committee of the State Pomological Exhibition of Ohio, to present the names of twelve winter apples, and I had to put the name of the White Pippin at the head of the list. I do not expect to find a better winter apple than this—so much so, that I could not recommend a half dozen varieties without including it. We have been greatly puzzled in Central Ohio to know where the name came from. It is supposed that it was brought from Eastern Pennsylvania and New Jersey under certain names. It much resembles the Newtown Pippin, and is every way profitable.

MR. SCOTT, (N. J.) I would say there is something in our nurseries which answers to the description given by Mr. Bateham. The name of Pippin is given it for special distinction, but whether it was a Holland or Fall Pippin, or something else, we could not determine.

MR. REID (N. J.) It very much resembles the French Pippin.

MR. QUINN (N. J.) The French Pippin, to which Mr. Reid refers, is cultivated very extensively in our region.

MR. DOWNING (N. Y.) The White Pippin is a very fine apple, but distinct from the French Pippin.

(The White Pippin was then added to the list.)

THE MEXICO.

MR. TROWBRIDGE, Conn. I introduce the Mexico.

MR. DOWNING. It is a good, pleasant apple. In our classification, I call it very good. In Connecticut, around Brookfield, there is no apple liked so well. It is an early September apple, and the nurseries there cultivate it, and have it in their catalogues as one of the finest apples. (Mr. D. here exhibited a specimen of the article, unripe.) They will now fall from the tree in two or three days.

(Not added to the list.)

PRYOR'S RED.

DR. WARDER. I introduce the Pryor's Red.

MR. TAYLOR. It originated in Virginia, and is cultivated throughout the South; has a rather tender skin, liable to a little rupture in the keeping; used

to mid winter and spring; almost like the yellow when ripe.

MR. BATHAM. That apple I have seen a great deal of in Southern Ohio and Southeastern Ohio, and have been much pleased with it. But a serious complaint brought against it is in consequence of the tree blighting. There seems to be a great importance in regard to location, as it is liable to become diseased very soon on being planted in unsuited soil. Along the Ohio it does very finely. But I would not recommend it to my friends or customers for general planting.

MR. TAYLOR. It is the hardest tree to graft; many attempts at the process being unsuccessful.

MR. ROBEY. In Southern Virginia it is considered of very fine flavor, though a tardy bearer, and a poor one after it commences.

DR. WARDER. A tree six years old and bearing a bushel, I do not call a tardy bearer. These objections have been made and may be made; but it is so well known—so long established in and out of Virginia—that I think we might safely put it on the list of Promising Well.

MR. BARRY. In some places it bears a very high reputation, and in those places will still be cultivated, whether included in these lists or not. I think we might as well put it in the list of Promising Well, as some others we have put there.

MR. BYRAM. Twenty years ago that apple was one of the most popular apples in the Western country, but for the last few years it has become so blighted that nurseries have generally neglected to grow it. It is an excellent apple, but blights very much from the rusting of the leaf.

MR. LYON. It is best for particular localities.

MR. FULLER, (N. Y.) It is much valued in the Southern and Western valleys. I move it be placed on the list of Promise Well.

MR. STEWART. For the last fifteen years it has been considered a valuable variety, not liable to be blighted by any disease.

(Added to the list.)

WINTER QUEEN.

DR. WARDER. I am very sorry I cannot find a specimen of what is known through the Southwest—Kentucky, Indiana, Illinois and Missouri—as the Winter Queen, Kentucky Green, Frankford Queen; and also known in Southern Ohio as the Fall Queen, and the Queen; much resembling the Buckingham, though differently colored, having a deep red color, a portion inclining to yellow, without any specks, but instead, a very fine bloom. It has been called the Horse apple, in limited localities. I propose to name it Winter Queen.

MR. BYRAM. It is considered in Kentucky one of our best apples.

THE BUCKINGHAM.

DR. WARDER exhibited a specimen of what was formerly called Buckingham, but which is now called the Buckingham of Illinois.

MR. BARRY. I hope the matter will be referred to the Committee on Synonyms, for the settlement of the question of name.

(This motion was agreed to.)

STRODE'S BIRMINGHAM.

MR. RUTTER. There has been a collection of apples brought here from Chester county, and among them is one of the finest I have seen. It is called Strode's Birmingham. We think it superior to the Porter apple. It is a fine bearer, and is a good market apple.

MR. STARR. I should like to say that the productiveness of the Porter, and the great disparity in size between the two apples, would destroy any claim to similarity.

MR. RUTTER. We grow both specimens of apples. These specimens of the Strode's Birmingham are of an inferior quality. The apple is now ripe. The flavor of the apple has more acid in it than has the Porter, and is very fine. It is a profuse bearer.

MR. DOWNING. I have this species in full bearing this year. It is about two-thirds the size of the Porter, but not half so good.

DR. ESCHLEMAN. We think we know something about apples in Chester county, and when the Porter and Strode's Birmingham are in competition, the committees of exhibitions find very little difficulty in awarding the premium to the Strode's Birmingham.

(Allowed to stand.)

OHIO PIPPIN.

DR. WARDER. I introduce an apple which commemorates a departed friend—the Ernst Pippin, the Ohio Pippin, and the Shannon Pippin of Arkansas. I know of no other synonyms than these. The apple originated in Dayton, Ohio; is of large size, somewhat round in form; of a pale yellow color; good for cooking, fine for baking, and in season in December.

MR. BATHAM. I know little about it; esteem it as a good apple, though I cannot say how good.

BAKER APPLE.

MR. ROCKWELL, Conn. I present the Baker apple for consideration. It originated on the farm of Dr. Baker—who has since died—about two years ago. He had in his possession the original tree from which these specimens have been disseminated by grafting; but I am not aware that they have ever been cultivated. The trees are very prolific bearers. I consider it the best apple we have in our nurseries, for all purposes. About two years ago, on the cultivation of a number of fruits, I preferred this one, and esteem it as one of the best. The first exhibition of the fruit ever made, I think, was last year, at the American Institute. I have specimens at present on exhibition. The color of the apple when ripe is much deeper than the one before the Society; this being about three-fourths grown. The season is from the first of October to February, although they even keep till March and April. I kept one of them until the first of June. Their best season is from October, through the month of January. As a cooking apple, we have them rated as having no superior.

THE CHAIR. As a cooking apple, I entertain a favorable opinion of it.

LARGE STRIPED PEARMAIN.

DR. WARDER. There is an apple, the origin of which is not very certain, but thought to be Virginia, called the large striped Pearmain, of Kentucky. It is well known in the Kentucky region.

MR. BATEHAM. I have seen specimens of it, but know nothing of it.

MR. BYRAM. As a nursery fruit, it is one of the best growers we have. The fruit is good and large, according to our classification; especially good as a spring fruit, and a late winter keeper.

KLAPROTH.

DR. ESCHLEMAN. I introduce the Klaproth. Specimens of it have been exhibited in Horticultural Societies, and repeatedly in our own section of the country. I am not familiar with the data of the original tree. I have had for twenty years trees of my own grafting, which have been productive for twelve years, and are so this year. Most of the specimens, as seen in the other room, are defective, because of a very severe hailstorm we had. I am very favorably impressed with the apple, which is in use from the middle of August to the last of September.

KESWICK CODLING.

MR. LYON. I present for consideration the Keswick Codling.

DR. WARDER. It is a very old variety, well known, and it is very strange that it has not been before the Society previously. We have the same fruit in our latitude—very fine for cooking.

MR. DOWNING. It is only a good cooking fruit.

MR. SAUL. One of the very best cooking apples.

MR. DOWNING. We want an apple at that season of the year, just like this. It is one of the best cooking apples, and I wonder it is not in every household collection. The apple is of a light yellowish color.

CORRECTION.

MR. BATEHAM. I am reminded of the necessity of striking out the word "New," on page 234 of last year's Transactions. *Not.*—Secretary notified.

RAWLES' JEANETTE.

MR. BATEHAM. This specimen is grown on good lands in Central Ohio, and south of that section. It is small in size.

DR. ESCHLEMAN. I remember a tree I planted eight years since. The tree is now failing, and the fruit exceedingly diminutive.

MR. STEWART. I am growing fruit trees of this species. The apple of the West, by this name, is not like my production.

MR. ROBEY. We consider this one of the best apples. It originated with a Mr. Rawles, [of Virginia, I believe—REPORTER,] from whom it derives its name. It is a good bearer.

MR. BERCKMANS. Its quality is second-rate, but it is a never-failing bearer; at least, as far as nursery trees of this species are concerned.

MR. TAYLOR (Va.) It grows in classes throughout Virginia. In rich soils, it is found to be of much account, but in stiff and dry places, of very little.

MR. LEWIS. I fruited this article, and find it of a very inferior kind for the North. In the South, it is better suited for cultivation, as the qualities which may be in it can then be brought out.

MR. STEELE. I have known this apple since I was a boy. It is cultivated in the valley of the Ohio, and in the Carolinas. Those who think it is a very small apple are much mistaken about it, for I have seen specimens grow up to a very large size; but I am not

one of those individuals who believe that every big apple must be of good quality. It is a pretty good apple, as raised in certain sections of North Carolina.

MR. FULLER. Seventy five per cent. of my trees are specimen of the Rawles' Jeanette. We so call the apple.

MR. NOBLE. I have fruited this apple for the last four or five years, and think well of it. The trees seem rough, but the apple keeps well with me.

MR. BATEHAM. The objection I have to the cultivation of it is, that its name will mislead readers of our Report, who may confound it with others upon which we have been passing.

HAWTHORNDEN.

MR. HARVEY, Pa. I present the Hawthornden. It is an apple well adapted to general cultivation.

MESSRS. BARRY and LYON. We think well of it.

MR. FORD. It is very large, and not fit for eating.

MR. GRISCOM. It has done well in New Jersey.

MR. LYON. I was surprised to see it, two years ago, placed on the Rejected List. It is an oblong, yellow-colored apple, with a red cheek; produces abundantly; a good market apple, and good for cooking.

MR. HARVEY. Objections have been made to apples not bearing for ten years; now the Hawthornden will bear in two or three years. Gentlemen owning gardens may have the Hawthornden in them on account of its small size, not being larger generally than a common sized fence. When a foot high it will bear several apples, and we can have it in our gardens the size of a currant bush. It is one of the best and handsomest apples, and appears to me to have all the qualities necessary for general cultivation.

MR. HOOKER. I hope that apple will never get on the list of those that promise well. There is no richness about it—made of mere water. Nobody wants to buy it, as every one who could would sell it. It is, however, a sure bearer and productive.

MR. NEWHALL. I cultivated the apple for a number of years. It is a great bearer, and very beautiful. I never could get any of my family to eat it, though it has sometimes sold pretty well.

(At the suggestion of THE CHAIR, a record of what had been said on the subject was ordered, which did not quite close the discussion relative to it.)

DR. WARDER. I have hardly heard of an apple about which so much of commendation has been said as of the Hawthornden.

MR. REID. This is such an old apple, that I think such a designation of it as "promising well for cooking" would not be inappropriate. The only objection I have to cultivating it in New Jersey is, that the Maiden's Blush is a very superior apple, and so much like this one that few can tell the difference.

MR. BATEHAM. I rose a few moments since to substitute the name of the "Maiden's Blush" for the present one.

MAIDEN'S BLUSH.

MR. BARRY. I present the Maiden's Blush. The apples (the Hawthornden and Maiden's Blush) are very much alike, but there is a great difference in the growth, habits, and bearing of the trees. The Hawthornden bears not very prolific, and a month or even six weeks before the Maiden's Blush. I think they are both eminently worthy of cultivation. Not only that,

but I know they are extensively cultivated in many parts of the country.

DR. WARDER. Everything said of the Hawthornden applies to the Maiden's Blush. The only objection to the former is that the latter is better. It seems strange that the bearing season of the Maiden's Blush with my friend from Rochester should differ so much from my own. What he has stated in regard to that point is the reverse with us. The Hawthornden (with us) does not make its appearance until the end of September, while the other specimen may be seen about the first of that month.

MR. ROBEY. One of our favorite apples. It grows well.

SUMMER RUSSET.

MR. HOPKINS. I would inquire whether the Summer Russet has been before us at any time. It is with us decidedly the most delicate and delicious sweet summer apple we have.

MORSE SWEETING.

DR. WARDER. I present two specimens of one apple—the Morse Sweeting—a very fine grower with us. It has been called the Red Sweet Pippin, and in the Proceedings of the London Horticultural Society, the Morse Sweeting.

MR. LOOMIS. I think it one of our best apples, though a little too dry.

BARNSELEY.

MR. SCOTT. I propose the Barnsley.

MR. NOBLE. It is a very good apple, rather sweetish, and an excellent one for the table.

MR. GRISCOM, N. J. It is a fine-flavored, beautiful apple.

DR. WARDER. I will name the SWEET BELL FLOWER of Ohio, the GREEN PIPPIN of Indiana, HOGAN PIPPIN of Indiana, and HALL'S RED of Virginia, as four distinct fruits to be entered upon our record.

RIDGE PIPPIN.

MR. SCOTT. I will name the Ridge Pippin of New Jersey.

MR. BARRY. I have cultivated it for twenty years, and I think it is a good apple, and very valuable for market. It always sells well.

MR. CORSON, (Pa.) I have had it for forty years, and find it to be a good bearer. It is now full, while others are bare. It keeps well; I have had it till the first of August.

POUND ROYAL.

MR. SAUL. I propose the Dyer Apple, or Pound Royal. It came from Mr. Foot, of Berks county. It is one of the best of apples. It is of fair size, and as regards quality, there is not one that can equal it.

DR. WARDER. I have never seen it. Is it red or white?

THE PRESIDENT. It is a yellow apple.

DR. WARDER. We have another Pound Royal, but it is not like this.

SUMMER QUEEN.

MR. TROWBRIDGE. I propose a Connecticut apple—the Summer Queen. It always bears very well.

MR. PARSONS, (N. Y.) I have also seen it bear very well.

MR. QUINN. I concur with the last two speakers.

DR. WARDER. In Ohio, we say it outgrows its roots. It is excellent for cooking.

MR. ROBEY. We consider it one of our best summer apples. I wish to introduce RAWLE'S CRAB. It makes better cider than any other, and in the spring it is a good eating apple.

Laid aside as cider apple.

THE PRESIDENT. This is a specimen of the Dyer Apple, but not a good one (exhibiting a specimen.)

MR. SAUL. This is the Pryor's Red or Dyer Apple; it has been cultivated under the name of the Tompkin's apple.

RAWLE'S JEANETTE.

MR. LOOMIS. I wish to see Waugh's Jeanette placed on the list.

MR. BARRY. I hope it will not be placed there.

MR. STEWART. It is known by different names all over the country.

The Secretary here read the list of varieties recommended; striking out the word new in the title:—KESWICK COOLING, POTTER ROYAL, MAIDEN'S BLUSH, FALL WINE, SUMMER SWEET, PARADISE, COMMON PEARMAN, EARLY JOE, STANSILL, SUMMER GREEN, PRYOR'S RED, WILLOW TWIG, and LIMBER TWIG.

(A note was received from the Academy of Fine Arts, inviting the members to visit that institution. Accepted with the thanks of the Society.)

(Adjourned to 3½ P. M.)

AFTERNOON SESSION.

WEDNESDAY, 3½ P. M.

PRESIDENT. The order of business this afternoon is the discussion of small fruits.

MR. SCOTT. I move we commence with the currants. Agreed to.

PRESIDENT. The three we have on our list are the Versailles, Fertile and De Palnan, and the Cherry.

CHERRY CURRANT.

MR. LYON. I think the Cherry Currant is too acid, and is not more productive than any other. It is certainly behind in quality. For this reason I would move it be struck off the list.

PRESIDENT. I will state that I discontinued raising it eight years ago, and hearing a great deal of talk about it commenced again to cultivate it, but I do not esteem it any higher than I did before. It is large and very poor, and I am sorry to see it so much cultivated; it looks like progress backwards. It has a popular name which has given it great popularity.

DR. WARDER. I am happy to say that our expectations of its being a bad berry have been disappointed. Near Cincinnati it has borne very abundantly. As for its quality I say "dignus titus non."

MR. HOPKINS. I have grown the Cherry Currant for the last three or four years, and I am obliged to take a different view from the chair in respect to the quality as well as the productiveness of that berry; I have found the quality far different from what it has been represented to be. I have found it to be a very abundant bearer. Its quality is fair and it is equal to the "old Dutch." I should be sorry to see it stricken from the list.

MR. LAWTON, N. Y. I have cultivated the Cherry Currant, and I concur with the President. I think

it is inferior in quality and not equal to the "old Dutch." I do not like its flavor.

MR. HOVEY, (Mass.) I have had it on my grounds and ceased cultivating it. So far as its eating properties are concerned, it is unfit to a place on the table. It is a large berry and only a very small number in each bunch; the Victoria is much better. As regards cultivation, I had once occasion to put all my currants on the same piece of ground, and I can say it does not grow well. I got six times as much fruit from the other vines as I did from the Cherry Currant. It is unworthy of cultivation unless to make wine.

MR. HOOKER. I think there are favorable qualities in the Cherry Currant. I have to observe in cultivation of fruits for market, size is a great object, and it has that quality. I do not wish to see it struck off the list. It has improved much in my estimation in two or three years.

MR. HOVEY. We have given it a fair trial and it does not promise well.

(Retained on the list.)

MR. SAUL. I move that the other two remain on the list.

(The Versaillaise and Fertile de Pallnau were allowed to remain on the list.)

MR. HOVEY. I move we add the Fertile d' Angers to the list.

MR. PRESIDENT. I think this currant is as good as the Versaillaise, indeed I think it is better. The Cherry Currant cannot compare with it.

(Added to the list.)

MR. HARRIS. Has any gentleman had experience with a new currant called the Bronze Currant?

MR. FULLER. I have had it several years, and do not like it.

PRESIDENT. Has any gentleman information in relation to the new striped currant, the Gloire des Sablons?

MR. HOVEY. It is a sour currant, and I will not recommend it for general cultivation. It is about the size of the Champagne. I have not had a very fair chance to try mine.

PRESIDENT. Who can give any information on the Imperial Red?

MR. STRONG. I have cultivated it, and it does not seem to be as large as I expected. It is altogether too small and I cannot recommend it.

PRESIDENT. I would suggest the White and Red Gondoin Currant.

MR. PRINCE. It fruited well with me, and this summer was the largest of any I had.

MR. NEWHALL. I have had this currant for the past two years, and consider it one of my best.

PRESIDENT. I have had the White Gondoin many years, and have been very much pleased with it. The Chairman of the Vermont Committee says he has fruited 36 kinds with great success.

MR. SAUNDERS. I hope that these good qualities that we have given to the White, will not be given to the Red, which is a poor bearer and a poor fruit. One is much deceived with it. It is quite below notice.

(The White was placed on the list.)

(The Imperial June was also placed on the list.)

ATTRACTOR, OR ADJUDANT.

MR. BARRY. It is merely a feeble variety of the White Currant.

PRESIDENT. I would like Mr. Barry to state what his experience of the Prince Albert is.

MR. BARRY. It is much better than the Victoria. It is a very valuable variety. At present it bears finely. I don't think much of the Red Gondoin. The two plants are distinct. The Prince Albert is remarkable in its leaves, which stand up erect.

MR. HOVEY. The Red Gondoin is very sour. It is hardly of a red color now. There is another Red Gondoin, much like the cherry. It is about the same quality as the White. In fact, I may say, that the only difference between the two is in their color.

MR. FROST. We consider the Red Gondoin and the Holland Currant to be the same.

MR. PRINCE. Last year I received three plants from Mr. Hovey. They answer his description and are entirely different from the Long Holland. I don't consider them worth cultivation. I think the gentleman refers to another.

THE PRESIDENT. There is another kind known as La Hatif. I have it in fine condition. I like it much.

MR. BARRY. In testing currants we find no Red so large as the Cherry. Next to that one comes the Victoria. We don't recommend the Fertile d' Angers, we prefer the Prince Albert. The great difficulty we have is that the Reds are so much alike. I should be careful about recommending any. I consider the Versaillaise as the best. The Cherry is only remarkable on account of its size. Many think it is ripe when it is not so. It should remain on the plant until it becomes of a dark brown color. I don't think it is a shy bearer. It may be so when pruned too much. Let it get enough age before pruning.

(The discussion on currants was here closed.)

STRAWBERRIES.

MR. STEELE, (N. C.) I move that we take up the subject of Strawberries.

MR. HARRISON, moved to add to the list the Vicomtesse Hericart de Thury. I have tried it for three years. I find it to be a first class berry. It resists the sun well. Its firmness of flesh recommends it. The under-runners take root immediately, and come up good plants. Its crop is numerous though not uniform.

MR. SAUNDERS. I have fruited it for four years. It is one of our best, certainly better than any other foreign one.

MR. RUTTER. It has a fine good flavor. Out of thirty or forty varieties I have had in cultivation, I have turned all under but this one. I have fruited this berry for two years. Its excellent fine flavor is superior to the Albany seedling. The vines grow rapidly, and strike easily. I think the Albany seedling is more productive.

DR. ESHLEMAN. All persons who have eaten it at my place have praised it highly.

MR. RUTTER. Is it equal to the Hooker's seedling?

DR. ESHLEMAN. I think it is more productive. It is equal to Walker's seedling, I prefer it to that one.

MR. FULLER. I think it is good, though not very productive.

MR. HOVEY. I will say to gentlemen, that I recollect that our discussion last year was unanimous, that no foreign fruits should be recommended. I think much of some, but I won't recommend them. This one I find is not a profitable fruit. I have had sixty or

seventy varieties, and have had for twenty years. I hope this one won't be recommended for general culture.

MR. HARRISON. There seems to be a difference between the English and Continental strawberries. I find that the French and Belgian are better, especially the latter. They all need high culture. The highest culture that can be given to strawberries is the most profitable. I find the Belgian and French berries well adapted to our soil.

MR. HOVEY. The Belgian cultivators have taken up our strawberries, and plant them now. It is well known, that the strawberries of Europe have been brought from Chili. The English strawberries will not stand our winters or summers well. I agree with what Mr. Harrison has said. I find that in the English strawberry, the end is green when the base is rotten, because the heat produced by the smouldering leaves causes a high temperature before the ends of the berries are ripe. I make these remarks to show that we may not expect much from the new variety of M. De Zéne.

THE PRESIDENT. It possesses good qualities as an eating fruit, but like the French hermaphrodites, it must be grown in hills, or it is unfit for cultivation. I imported a number of varieties some years ago. This is not a new variety. I do not now retain one of those I imported, because they were all hermaphrodites or staminites, and I could not grow them in hills as is customary.

English cultivators, who have the highest success, grow them in hills four feet apart. The question then arises, whether we should not study the fact if we wish to raise this article; that they cannot be grown except in hills.

TRIOMPHE DE GAND.

MR. MILLER. I fruited that variety for two years, and found none which I considered better or more productive. It is quite enough so, and will commence ripening in the ordinary period. I have a letter from a correspondent in Pittsburg, who states that in the cultivation of all the new varieties of the strawberry, he likes this the best.

MR. HOPKINS. I have had this variety in fruiting for the last two years, and most cordially endorse the remarks of Mr. Miller.

MR. BARRY. I consider this one of the finest strawberries in cultivation, either native or foreign. I was not aware that this society had declared against the recommendation or admission of foreign strawberries to this list for cultivation. I think no such thing has ever been done, and I do not see why such a measure should be taken. When we find a good strawberry, no matter whether of foreign or local origin, we should recommend it. This Triomphe de Gand has been tested all over the country, and everywhere I believe, the experience has been, that it is a large berry, excellent in flavor, standing the sun well in summer, and the cold of our winters equally well with any other berry. I don't know that it will produce as many bushels to the acre, as Wilson's.

I hope it will be kept on our list.

(This strawberry should have been inserted in the index of last year on page 76.)

(Mr. Hovey read from the Biennial report of 1858, a number of remarks relative to that subject.)

MR. HOVEY. I do not wish it to be understood that

this convention ever intimated that it would not recommend this or any other variety of foreign berries.

MR. BARRY. I understood from the tenor of Mr. Hovey's remarks, that the sentiment of this society was against the introduction of foreign varieties. For one I do not wish to have any such opinion go forth, that when we have got a fine foreign strawberry, we relinquish it sooner than we would a fine native one.

DR. HOUGHTON, (Pa.) I would say in reference to the Triomphe de Gand, I saw this summer at Jenkintown, Pa., on the grounds of Mr. Satterthwait, about twenty varieties. He sends a great many to market. The Wilson sells at eighteen cents, the Triomphe de Gand at from thirty-seven to thirty-eight cents. I enquired of him, and he pronounced it a strong grower, next to the Wilson. I looked at it more particularly, as he is a great grower of berries for market.

REV. MR. KNOX, (Pa.) I have fruited the Triomphe de Gand for three years. Out of over one hundred varieties of strawberries I have under cultivation, I regard it as the very best of them all. I have fifty acres in strawberries, and would be very glad if the whole of them were the Triomphe de Gand. It seems to me, there is scarcely an excellence it has not got. The plant is hardy and vigorous, as much so as the Wilson. I think the healthiest and most vigorous plants I ever knew on my place are this variety. The fruit is large and luscious, dark, glossy, and always attracts attention and commands the highest prices. It brings from twenty-five to fifty cents per quart, and the supply is not equal to the demand. From Pittsburg they have been carried to Cincinnati, where they profess to know something about the strawberry culture, and they send back for more at fifty cents a quart. It has a very good flavor and is easily protected. I think the question should not be, what mode of culture is necessary, but will it pay. That mode of culture required for the Triomphe de Gand, and for other foreign varieties is that which pays better with us than any other. The only mode of culture we have adopted is in hills. We plant them in rows two and a half feet apart. The hills should be twelve inches apart. It shoots out well. It bears remarkably well.

MR. RUTTER. What does Mr. Knox consider the next best variety? I think we can settle this matter soon.

MR. FULLER. I have several hundred varieties of berries, the Triomphe de Gand being one of the best. I would be in favor of its being placed on the list for general cultivation.

MR. SATTERTHWAITE, (Pa.) I wish to get correct a wrong impression. The plant is much more vigorous than the Albany seedling. I move that it be placed on the recommended list. I cultivate strawberries for market, and have means of knowing which kinds are the most profitable. I am not prepared to say that it is the best market berry, but I consider it next to the best. I consider Wilson's Albany to be the most profitable by far, the only objection to it being, that it will not stand the heat so well as the Triomphe de Gand.

DR. HOUGHTON. I wish to say that Mr. Satterthwait is one of the best practical growers of fruits and vegetables for market I have seen or known. In the culture of the strawberry, he has a method which far exceeds all others, he grows the Triomphe de Gand in

rows thirty inches apart. He runs the cultivator all summer, and in the fall, covers them with long manure, and does it with great economy of labor. I think any attempts to grow strawberries less than thirty inches apart will prove of no avail. By keeping them a foot apart, he has not found the fruit improved.

MR. R. R. SCOTT. I wish to know if the Bcynton's Mammoth is the same as Taylor's Victoria.

MR. HARRISON. In regard to the two methods of culture, in hills and in rows, by planting in hills, the plant keeps best in the ground. My plants now do well. The first year I got no crop. The longevity of the strawberry, I am satisfied, we do not yet know. By the common method of culture, we know that we get no crops. I think the bed system of culture is the very last system we should adopt, and we ought to dismiss it.

LONGWORTH'S EXTRA RED.

DR. WARDER. I name the early red; Longworth's extra red. Mr. Longworth is a very distinguished propagator of fruits. A gentleman writes to me in such a manner about the extra red, that I am convinced more than ever, that his opinion in relation to the specimen I sent him has undergone a very considerable change. He now writes to me that his extra red is No. 1. It is productive and very handsome, somewhat sour, of sufficiently good flavor, and a very fine market fruit.

MR. MILLER. I have cultivated that strawberry for five years. I received it under the name of the Longworth Prolific, and it has been invariably one of the most productive and one of the finest berries. The only objection is, that in wet weather it does not stand well. For preserving, it is excellent. My better half preserves many of them, and likes them much.

MR. BATEHAM. It is too sour for general use. It is much improved by preserving. I like its flavor more than that of the Wilson's Albany. I have been very well pleased with it. It is a very hardy, vigorous plant, and very productive. It is one of my best varieties.

(Not added to the list.)

LADY'S PINE.

MR. MILLER. I will introduce the Lady's Pine.

MR. BATEHAM. It is not sufficiently flavored. It is small, and very white in color.

REV. MR. KNOX. Its smallness is my main objection to it.

MR. FULLER. It is delicious, but too small.

JENNY LIND.

MR. BATEHAM. I introduce the Jenny Lind.

MR. FROST. This is the best we have in cultivation.

MR. QUINN. It is very productive.

MR. KNOX. It is a very early bearer, and continues to bear well.

MR. ESHLEMAN. I have known it for five years, and have disregarded it.

MR. HOVEY. So far as I know it is an old Virginia seedling improved. It is almost twice as large as specimens I have seen here. It bears well, and has a fine flavor. It produces a fine crop, which I have

seen for three years in succession. I do not know that I have seen any berry produce so well.

MR. PARRY. It has ripened with me.
(Placed on the list.)

SCOTT'S SEEDLING, OR LADY'S FINGER.

MR. ESHLEMAN. I propose the Scott's Seedling or Lady's Finger, a very beautiful bearer, valuable in market, fine for preserving.

MR. R. R. SCOTT. The Lady's Finger during the present season, has been decided, by those who cultivate it, to be distinct. It has a fine flavor, but the Scott's Seedling is deficient in flavor and substance.

MR. ESHLEMAN. I allude to the Scott's Seedling of Massachusetts, a very long berry, sometimes a little flattened.

MR. HARRISON. I have seen that seedling, and it originated in Burlington County, N. J. The color and peculiar firmness fitting it for carriage to most all distances.

MR. BARRY, (N. Y.) The Lady's Finger is quite distinct from the Scott's Seedling.

MR. HOVEY. I do not know the Lady's Finger, except that I have seen it named; but the Scott's Seedling is a genuine seedling of New England, raised by Mr. Scott of Boston. It was first called Scott's strawberry. It was then very handsome, and much purchased in the market. I found out that the cultivators did not sell them, and calling upon Mr. Scott, was asked to look at his bed, which I did, and saw there what greatly surprised me, the beauty of the fruit. He produced this strawberry for three years, and sold it in the Boston Market. Under all the circumstances I told him I wished to buy a plant for myself, and was willing to pay a reasonable price, when he said, that if I would, as a nurseryman, take the plants and sell them, he would let me have them. Of all the strawberries I would cultivate, I think the Scott's Seedling should be foremost. It has one peculiarity which raises it above its fellows—a peculiar mixture of orange and strawberry flavor. It is but a light bearer, stands carriage well and has but one fault—that it does not retain that delicious aroma in which it abounds when picked from the bed. When kept in shops or drawers it become flat.

THE PRESIDENT. I would like to ask whether it has not gone out of cultivation in Massachusetts in consequence of its being a poor bearer.

MR. HOVEY. No, sir. The Scott is considered a fair bearer.

MR. PARKER. I gave it up on account of its being a poor bearer.

MR. SATTERTHWAIT. There is a mistake in regard to its identity. I cultivated the Scott's Seedling of Massachusetts for a few years, and found it was not a good market berry. The Lady's Finger is very much inquired for in the Philadelphia markets, and is a good market berry. The Scott's Seedling has a peculiar flavor, but I will not say any thing against it.

MR. STRONG. My impression is, that this berry has been lost sight of on account of its inferior qualities. It is a very light bearer and almost invariably hollow, and is not considered in Boston as worthy of cultivation.

MR. HOOKER. We cultivated the Scott's strawberry for some years, and introduced it into our plantations for market, where it was tried for two years, when

we found it was entirely worthless, and finally we have cultivated only those few specimens we found necessary. It is very soft and a very beautiful fruit, but entirely unworthy of cultivation.

MR. SCOTT. At the last session, the observations of certain members showed this berry to have been rejected in their vicinity.

MR. BATEHAM. It is of no avail upon clay lands. It may do better on sandy soil.

THE PRESIDENT. I suggest that the discussion be left open without taking a vote.

(Agreed to.)

BRIGHTON PINE.

MR. KNOX. I introduce the Brighton Pine. It has an excellent flavor, is a steady bearer, and bears abundantly, never fails with one. I have a bed which is four years old, and it continues to bear well.

MR. HOOPEE, (Pa.) It also bears well with us.

DR. WARDER. Touching this variety, I was obliged to discard it some years since. It is a poor bearer, of medium size.

MR. STRONG. In general it is regarded as a poor bearer. If we have dry weather, it does well.

(Left on list.)

MOYAMENSING.

MR. KNOX. I introduce the Moyamensing. It is of a dark color, excellent flavor, and bears well; prized for preserving.

DR. WARDER. In the neighborhood of New York it has failed, being so poorly adapted to our latitude. It is in wet weather rather soft. This variety has specific relations to certain soils and latitudes. This berry here, as in New York, is comparatively worthless. In New Jersey and similar soils they are rather good. This fact will explain the apparent contradictions touching the character of strawberries.

MR. SATTERTHWAIT. I rejected it some years ago, on account of its not being productive.

(The discussion of strawberries here closed.)

RASPBERRIES.

THE ALLEN.

MR. HOVEY. I move that the Allen be rejected, because I do not wish to have bushes instead of fruit.

MR. SCOTT. At the last meeting a vote was taken, and it was decided to let this matter rest for two years, at the end of which time the experience of cultivators of it could be heard in relation to it.

MR. SATTERTHWAIT. A prevailing idea in regard to that raspberry is erroneous; which is, that its blossoms are briety, and that it will not present its fruit without having its blossoms over-riden by some other variety. This is a new idea, and I would like to have something more said in regard to it.

MR. BARRY. It has frequently borne abundant and delicious fruit, and at other times appeared to be entirely deficient. In connection with our common red raspberry, cultivated extensively for the Philadelphia market, they both bear admirably, from near the ground to the top of the stem. In a certain place where I had planted the true Allen raspberry by itself, it failed; there being no fruit planted near it. Another peculiarity I discovered was, that in getting some 1400 or 1500, I had got some upright canes, and

these were scattered indiscriminately, and that crop bore most luscious fruit, which brought fully as high a price as the finest North River Antwerp. I went into the garden of the nurseryman in New York who got this plant from me, where I found it planted side by side with other berries. The first row was admirably filled with fruit, and the row next to it was fine, but the fruit was not worth picking out. I found a number of instances as striking as this, and I came to the conclusion, in examining specimens I found, that there were stems around the blossom where there was a great deficiency. It appeared to me that it was the cause in the falling off in the bearing of the fruit.

DR. WARDER. There is one question I would ask, whether the Allen raspberry, while prolific in fruit, is also prolific in vine?

MR. BARRY. It is amply productive in berries, and abundantly prolific in vine.

DR. WARDER. I wish to learn whether there is any other berry that is as prolific in fruit, and throws up such a great number of stools.

DR. HOUGHTON. The American seedling.

MR. HARRISON. There is growing in the garden of a gentleman on Chestnut Hill a variety of raspberry of a high order of productiveness. The wood is slender, of a very light brown, and the berries have a habit of throwing themselves on a branch, upon which there is a profusion of scions, which, he said, if he had only the power to render productive, he would take everything else out of his garden. A very distinguished amateur has had two kinds growing in his garden, and not one had been productive.

MR. QUINN. My experience has been the same as that of Mr. Hovey. The berry gives a large quantity of wood and little fruit, so that I do not think it worthy of general cultivation.

MR. DOWNING. I have had an abundance of fruit of this variety this season, which has been of poor quality.

DR. HOUGHTON. I have a fine plantation of raspberries growing by means of small canes. The second year has now arrived, but I have had no fruit.

(Placed on the rejected list.)

KIRTLAND.

DR. WARDER. I introduce the KIRTLAND RASPBERRY. It is not as ample a grower as some others. It is the earliest we have. It has quite a good color, not so bright or handsome as the Allen by any means.

MR. LAWTON. I obtained the Kirtland from Sandusky, Ohio. It bears abundantly, throwing up a large number of shoots. Perhaps that may be owing to my evident neglect of it. It is an early bearer, but needs care and protection.

DR. WARDER. The great difficulty is to get suckers enough to supply the demand for light fruits. I would ask for information in regard to the Purple Cane.

PURPLE CANE.

MR. DOWNING. The Purple Cane and the American Red Cane are, I think, alike. I think it the farmer's raspberry of this day—thirty or forty years ago it was cultivated around New York.

MR. SCOTT. The Purple Cane is the *Rubus Occidentalis*. It has outlived all other raspberries, and is considered the best. It has a blooming color.

MR. SATTERTHWAIT. It is the only raspberry I have found to stand the test. I never found any other to pay as a market fruit but the old Purple Cane. It is uniformly an abundant seedling.

MR. REID. Its manner is to propagate by the points of the shoots, different from other kinds. This berry used to be cultivated extensively for the New York market.

MR. BUIST. This belongs to the class of *thimble berries*, which is a distinct species entirely.
(Not added to the list.)

HORNET.

MR. HARRISON. I suggest the HORNET. I have known it for three years, and it bears enormous crops. It is of a fine quality, and for a raspberry, will pay well. It sells in the market at from 37 to 50 cents per quart, while others are selling at 25. It attains a very large size, and is worthy of our attention.

MR. REID. I have had the Hornet on my place, and think much of it.

MR. PARRY. It bears abundantly, and I find it to succeed very well, but I do not think it is hardy. It is well worthy of cultivation.

MR. MITCHELL, I have always found it to do well, and I concur in what the other gentlemen say.

THE PRESIDENT. I imported it from France, and succeeded well with it.
(Placed on the list.)

BELLE DE FONTENAY.

MR. BARRY. It is worthy of cultivation. It bears a heavy crop at the ordinary season. The only way to get a good autumnal crop is to suppress the early crop. It has a fine flavor.

DR. HOUGHTON. I have taken a great interest in the growth of this berry. I rise to ask if the *Merveille des quatre saisons* and the Belle de Fontenay are the same plant? No two persons agree about the names. The plant I have has a stiff stem, and is known by the name of the Four Seasons. It was once called the Belle de Fontenay. I consider it very highly, having obtained it from Mr. Baldwin, upon whose grounds it has stood for several years. Upon my own grounds it is perfectly hardy, and shows a disposition to fruit constantly and very late. The plant which I have was imported for Mr. Baldwin. I believe it to be the Belle de Fontenay.

MR. FULLER. The Belle de Fontenay is not a distinct plant. I believe it to be the best raspberry we have.

MR. HOUGHTON. The best we have—most hardy, finest fruit, best grower; I value it above all others.

THE PRESIDENT. The Belle de Fontenay has a silvery leaf, and is the largest raspberry I have ever seen. If rightly managed, you can do better with it in the South than has been done with it in the North.

MR. HOUGHTON. I move that the Belle de Fontenay be described in the Report as having a stiff, upright stalk.

MR. BARRY. The Belle de Fontenay has a short stiff cane, with thick foliage, silvered on the under side, and quite erect.

THE PRESIDENT. It is a very bright autumnal bearer, and is abundant.

IMPROVED AMERICAN BLACK CAP.

MR. KNOX. I introduce the improved AMERICAN BLACK CAP.

MR. SCOTT. I would remark in regard to this berry, improved by Mr. Doolittle, that since last meeting I have given particular attention to the question, whether it has been improved by any hybridization? Mr. Doolittle did not claim that he had given it any cultivation whatever, but what is usual. It has been found that the Black Cap is no more than a common berry.

MR. HOOKER. I have propagated it for market purposes. It is different from the wild raspberries, and is a seedling of a far larger size; more flavored and delicate. It is treasured above all the raspberries of the season. I esteem it highly for its valuable cooking properties, and for every purpose except to make money. I consider it a very great acquisition.

MR. REID. Why cannot nurserymen make money out of it, if there is a demand for it?

MR. TROWBRIDGE. Mr. Hodge, of Buffalo, tells me that he has taken 2,000 quarts from one acre of ground; that is to say, 30 or 50 quarts per day for about six weeks. No other raspberry in the market brought the price that one did.

MR. BARRY. Whatever improvement it has undergone, has been by cultivation, I should call it the Improved Black Cap.

MR. VICK, (N. Y.) Mr. Doolittle does not claim to have raised the seedling.

MR. MILLER. I would state that I am surprised there is no mention of our raspberry. I can show any person the fruit now on exhibition. It has been pronounced that there are three distinct varieties of this berry.

MR. KNOX. It is popular with the people of Philadelphia. We call it the Improved Black Cap. My opinion is, that it was improved, or that whatever improvement it underwent, it has received in cultivation.

MR. HOOKER. Mr. Doolittle does not assert that he raised the seedling, but that he procured it from a locality where it was thought to be very superior. The origin of it is well known, though the person who raised the seedling I cannot designate.

MR. HOVEY. In relation to this raspberry, if it is superior to the wild raspberry taken out of the woods, I hope it may be entitled to the name, and that it may not be called the Black Cap, because persons would then go to the woods and get it, as they did the Dorchester Blackberry. In that case the people insisted that they could go to the woods and get a blackberry as good as they could from the dealers. Two years ago we assembled and gave it the dignified name it has since borne—the Dorchester. I would advocate some kind of a distinct name, whether it be the Doolittle Black Cap, or any thing else, for this berry.

MR. SMITH. Mr. Doolittle obtained it of a gentleman, and made some improvement.
(It was then called the Doolittle Raspberry.)

BLACKBERRIES.

(THE DORCHESTER and LAWTON'S NEW ROCHELLE Blackberries were allowed to stand on the list.)

NEWMAN'S THORNLESS.

MR. COOPER. I propose the NEWMAN'S THORNLESS.

MR. MILLER. It has few faults and fewer berries.

MR. SAUL. I concur with Mr. Miller.

DR. WARDER. I make the same observation.

MR. HARRISON. I introduce the GRAPE Blackberry

PARSLEY-LEAVED.

MR. LAWTON. I propose the PARSLEY-LEAVED BERRY. Mr. Thomas Hogg presented me, in December, 1857, one dozen. In the spring they put forth. In 1858 I got a good crop; in 1859, another. In 1860, quite a large crop. It seems to be perfectly hardy, and very fine wood. I have cultivated it without any care or protection, simply removing the weeds from around the roots. It has done well for three years, and I think it will do well in future. My specimens here are nearly as large as the Lawton. It has a trailing vine, sometimes twenty feet long. Whenever I lifted it up it died, so it cannot be trained like grapes. The plant is covered with thorns.

THE PRESIDENT. These long shoots are objectionable to me.

MR. FREEMAN. My experience has been the same as Mr. Lawton's, except in regard to its dying when trailed up. The flavor is not so good as the Lawton. It fruits two weeks later than that berry.

DR. WARDER. In regard to certain Blackberries raised in the Western States, we have White, Yellow and Pink, growing wild in Kentucky and Illinois. We do not suppose them to be distinct species, but only a departure from the Blackberry. Mr. Orange has three kinds which he procured from the woods; they are green in color, becoming somewhat transparent. Mr. Elliott has called them the Albion or Crystal. They are common near Maysville. They are large and fine, and I like them better than the New Rochelle or Dorchester.

MR. PEIRCE, (D. C.) I understand that they grow in Virginia, in Bath county. With me they have proved worthless. I have found them on the tops of the mountains near Coudersport. They are considered there very fine, when found in the woods; in gardens they are worthless.

DR. WARDER. Mr. Orange has not found any difficulty in propagating them.

(Adjourned to 9 A. M., Thursday morning.)

THURSDAY MORNING.

THURSDAY, 9 O'CLOCK, A. M.

The Society met on Thursday morning at half past 9 o'clock, A. M.

The business in order being the consideration of small fruit,

GOOSEBERRIES.

MARTIN'S SEEDLING.

MR. LYON, introduced the Gooseberry species, the Martin Seedling; it is worthy of cultivation, very fine; size, considerably larger than the Houghton, of fine flavor.

MR. PRINCE. The Martin Seedling is not a new variety; it originated with the Shakers of New York State, and is not an American Seedling.

(Entered on the list of promising well.)

DOWNING SEEDLING.

MR. LYON, introduced for discussion the Downing Seedling.

MR. REID. I have seen it fruited, and think it one of the best seedlings I have yet met with; it is larger than the Houghton, and I am cultivating it together with a stock of seedlings.

(Entered on the list.)

MR. LAWTON. In regard to Gooseberries, I think the matter of their being added to the list is unimportant. My decided impression is, after experience of 10 or 15 years, that the mildew upon Gooseberries is owing to want of proper pruning and cultivation and is not owing to any exemption from mildew it may entertain, on account of the variety. Nearly twenty years ago I purchased some young Gooseberries in market, which I raised in bushes with clusters to the roots, and for the last 10 or 15 years have had plants that have yielded an abundance of fruit, free from mildew, bearing large numbers of White and Yellow Gooseberries. I gave them no name because they had received none. I think there are sixty or eighty of these plants in various parts of my garden, growing under fruit trees, in the shade. They yield every year free from mildew. Now, I would claim no special favor for these varieties I cultivate as being free from mildew.

THE PRESIDENT. The American Downing comes without pruning and without mildew.

MR. LAWTON. I do not believe it is necessary to cultivate these little varieties, merely because they are without mildew.

(The American Downing added to the list.)

GRAPE.

TAYLOR'S BULLITT.

MR. MILLER, (PA.) My object in rising is to correct an erroneous impression which prevails in some places respecting the name of the Bullitt Grape, received from Judge Bullitt of Kentucky. I attached that name to it in order to distinguish it from other Grapes in the catalogue, and I was charged by horticulturists with changing the name, when they said that no name of a grape could be changed unless this Society or some other persons, capable of rightfully doing so, should change it. I do not profess to have changed the name. I only wish to propose the subject to this Society, to call that Grape the "Bullitt," and nothing else. Dr. Taylor, of Cleveland, said it might be confounded with the Cuyahoga, or his new seedling. I was told this morning I am also charged with saying that the Cuyahoga and Taylor grapes were one and the same. That I deny. The Taylor deserves a place on the list of promising well. It is frequently spoiled from being very imperfectly packed, but is a speedy and vigorous grower, perfectly hardy and free from mildew. In regard to the other 150 varieties, I think the best thing for us to do would be to enter into them, hand in hand. Eight or ten of them I consider unworthy of cultivation. There is an insect shown here by my friend Grider, of Bethlehem, Pa., with which I am not acquainted.

PRESIDENT. That subject will be reserved for examination.

MR. GRIDER. I move that the name be now changed of the Bullitt Grape to that of Taylor Grape.

MR. VICK. I do not know that it is customary for this Society to change the name of a Grape they do not recognise in any shape on the catalogue.

PRESIDENT. It is proposed, I presume, as one of the promising well.

MR. VICK. The first question in regard to it should be, ought it to be admitted in the catalogue at all?

DR. ESHLEMAN. The grape about which we have been talking is a Southern Grape and has scarcely been fruited north of Kentucky. It seems to me very remarkable that we should adopt that Grape as one promising well, until it shall have been tried.

MR. FULLER. I would like to know whether the Southern States are within the United States. I think if they are, fruits promising well in the South, should be considered as well as those of the North. The opinion that certain fruits apply only to the South has not much force.

MR. BYRAM. I have taken some interest in the cultivation of this Grape in certain States, and found that it stands the climate remarkably well. It is excellent and has proved one of the most beautiful vines I know of.

MR. GRIDER. I have seen it growing in Northampton Co., Pa., on wood 15 feet long, this season. Its foliage is beautiful and its leaves smooth.

MR. BYRAM. It ripens about two weeks before the Isabella.

DR. ESHLEMAN. There are specimens here which a number of members have tasted. They have every appearance of being ripe, and yet are quite indifferent. I have the grape growing, and I doubt very much its quality. Judging from the wood of the grape it is especially adapted to the South.

MR. MILLER. I would ask if the term south is applicable to a country only a degree and a half south of us. The grape is grown in the northern part of Kentucky.

MR. RUTTER. I think there can be no objection to placing this grape upon the list of grapes for trial. It will then not be adopted by the society, which I wish gentlemen to understand in its discussion. Since we put upon the trial list, apples from the south and west not known in Pennsylvania or the east, why should we not put grapes on that list in the same manner. I had this grape from Kentucky last week very fine tasted. I think, with due deference to the opinions of my friends, the flavor is fine, and equal to any out-door grape. I have tasted none better, excepting the Delaware, because it has come here in perfection. There is certainly a great work in the trial of it. As for its growth, there is no question about it; among some eighty or ninety kinds, it is the best grower among those that promise well.

(Placed on the list of promising well.)

MR. SCOTT. I move to refer the nomenclature to the Committee on Synonyms.

(Agreed to.)

RAABE GRAPE.

MR. PRINCE. I propose the Raabe Grape. As far as my own experience goes I have found it a perfectly rustic American grape. The sweetest perhaps of the American grapes. The cluster is small, the flavor very good, early in ripening. I consider it quite an acquisition, one well suited to the climate, and will

probably grow very well in Massachusetts and New Hampshire. The fruit is excellent, and I would like to hear from Pennsylvania.

MR. SCOTT. There are specimens of the Raabe grape on the tables from original raisers of the fruit. My ideas agree with those of Mr. Prince as to its sweets, and I know that it is a rustic grape, and that the leaves are strong. It is unlike our native grapes in regard to foliage. I think it will stand as a purely native grape, although the seed from which it was raised were of doubtful origin.

MR. MITCHELL. I have cultivated this grape for several years. The bunch is small, and the berry contains a very large seed, but it bears enormous crops. It is altogether desirable I think for special culture. It has a rich juice. It has been cultivated, not only in Philadelphia, but in the neighborhood for the last eight or ten years, and was formerly thought to be a seedling of the Catawba. A member who is here, remarked, that he considered it a seedling between the Catawba and the Elsinburg. I consider in point of size and flavor, it to be of that class of grapes known as the Delaware.

MR. RUTTER. I suggest that every gentlemen introducing a specimen, should present the same before the society. The Raabe grape is not the size of the Delaware, though differing in color very little from that species; it is sweet, and may be said to be equal probably in flavor to the Delaware grapes. I think that there is no doubt about its being sweeter than the Delaware grape, though it lacks that peculiar vinous flavor, which is so much liked by every one who is fond of a good grape. It is a fine grower, and will probably bear abuse. They must be cultivated nicely and with care, then you will have a good grape, that is one of the highest recommendations of a grape—that it will bear abuse—and I know many who do abuse their grapes.

MR. HARRISON. One point in regard to this grape has been omitted, it has a very characteristic, peculiarly transparent appearance, in the country it frequently has a dead, gloomy look.

MR. MITCHELL. I move it be placed on the list.
(Agreed to.)

CREVELING.

MR. PRINCE. It is a large grape, slightly peaked, with less plumpness than the Isabella, about the same sweetness, and bearing a few weeks earlier. The color is a dark purple like the Isabella.

MR. MITCHELL. The Creveling is known in my place as the Isabella. The bunches are now very nearly ripe.

DR. ESHLEMAN. In order to prevent confusion, I will mention some of the synonyms of that variety. I think it will prove identical with the Catawissa and Columbia Bloom.

MR. PRINCE. The Columbia is the name of the grape which was well known in publications of the grape several years ago. It originated in the District of Columbia.

MR. GOODMAN. I exhibited the grape here, and know something about its history. It has been cultivated some twenty-five years in the neighborhood of Columbia County, Pa., from which place it derived its name. The name of the grape there was originally the Genlin, from the name of the family who originated

it. It has been cultivated for a long time, and has to some extent run out the Isabella. From the facts that fruits north of the Blue Ridge ripen some weeks earlier than those south of that ridge, among which is the Isabella. It ripens by the side of the Northern Muscadine, and many think it superior to the Isabella. It hangs well on the vine, and I can refer to gentlemen who have proved its character for making good wine, without sugar or spirit.

(The Bullitt or Taylor, and the Raabe grapes were taken off the list of promising well.)

THE MAXATAWNEY.

MR. MITCHELL. This grape derives its name from a township in Berks County. It grows on a hillside exposed to the north-east, in a certain locality in Montgomery County, Pa., to which place it is supposed to have been brought from Berks County, and planted. I saw a vine of this kind of grape planted on an old plum tree, where it was exposed to the weather, and rambling all over the tree. So far as the Maxatawney vine is concerned, I think there will be no doubt that it is a native grape. The leaves are strongly marked in character. The grape being a white one, is a rather remarkable variety, being entirely native in its character with a Malaga appearance on the Vine. Unfortunately the grapes now before the convention are not ripe, and this kind will not be until the first of October. It is recommended as a very hardy grape, a free bearer, and has an excellent flavor when ripe, with a slight odor.

MR. CRAN. I do not know that I can say anything further in relation to this grape or the growth of the vine, than has been communicated by Dr. Brinkle in publications. I have specimens here which show the character of the wood.

(Specimens here exhibited.)

CLARA.

MR. R. R. SCOTT. I introduce the Clara, one of Mr. Raabe's seedlings raised about the same time as the Raabe grape. Its place of nativity has been considered somewhat doubtful. I would like to have some information respecting it from gentlemen who have cultivated the Clara along with the Raabe. The color is not so bright a green as the Maxatawney, rather a sort of light amber color. I do not cultivate grapes myself, but see them in my operations. I do not wish it to be reported that I have this growing when I have none, I am only employed by others.

DR. GRANT. I have cultivated it for a number of years, but have fruited it only twice, as I used it chiefly for ascertaining certain facts in relation to the testing of the fruit. Its properties, I thought very fine indeed; it has suffered from mildew as little as any other variety. The color is of the very best; the productiveness not remarkable. I consider it very valuable. It has been two successive winters without any protection from the coldest weather we have had in which the Catawba suffered badly, but this not at all. The time of ripening is about the time of the Catawba. In reference to the foliage, it was measureably exempt from mildew, and a good grower.

MR. MITCHELL. Mr. Raabe has the Clara growing in his yard in Parrish street, and invites the entire convention to go and look at it. It has borne very large grapes, the result of no special culture, last year

it bore a very heavy crop. The vine that I have, is a young one, and so far as mildew is concerned, it is not affected more than any other variety.

MR. LYON. Several years ago I had a small plant of this variety, which I planted with rather unusual care among a number of varieties, and carefully covered it. For two years, it was unable to get much growth, it suffered some from mildew, while others were unaffected, and I finally lost it. It bore no fruit at all. Its correct productiveness could not be vouched for.

MR. MILLER. I have had the Clara grape for four years. It fruited in 1858 and '59. Last winter it was partly winter killed, not having any protection. This summer it mildewed, I think in consequence of having been partially killed last winter. Any plant killed by the winter does not stand the same chance of escaping in the fall of the year.

THE TO-KALON.

MR. HARRISON introduced the To-Kalon for consideration.

MR. STRONG. I found it somewhat liable to mildew. I do not know that my opinion on this variety would entitle me to say much. My impression however is, that it is better than the Isabella, it mildews about the same.

MR. HOOKER. It is very liable to rot and mildew. The vine is hardy and a vigorous grower, materially productive, and when obtained in good perfection is a very superior grape, large and handsome. I do not believe it will ever be a valuable grape. The wood though exposed all winter is very hardy in the ends and shoots as the Diana. The rot I believe, has more or less affected the fruit. I would not recommend it. It ripens at the same time as the Isabella, the color of which is not so pale as this one.

MR. PRINCE. I have a vine I received from Mr. Sparks which I have had perfectly hardy ever since, and I am perfectly satisfied that if this grape has enough open exposure and free air it will not mildew.

MR. LYON. I fruited the To-Kalon this year. When I left home about the first of September, it was considerably colored. The Isabella was about half colored, not so much as this one. With me it will not mildew, though I have seen certain premonitory symptoms of it. It is a very strong grower.

DR. GRANT. Four years since, I proposed the To-Kalon for the list of promising well. That was the last of a succession of remarkable years for the growth of the grape. The three preceding seasons it had given much satisfaction, the bunches very large; in ripening becomes very dark, its productiveness is equal to any grape I have grown. It has ripened with me every year, and always a week or six days earlier than the Isabella. In sweetness and purity it has a taste beyond others; not having the excellence which is characteristic of the grape, in consequence of its liability to rot and lose its leaves when mildewed.

(Allowed to stand on the list.)

CLINTON.

MR. HOOKER. I introduce the Clinton. It is not a new grape, having been fruited for a number of years, and is spoken of favorably, known with us as very productive, hardy, and making a very good wine. It is of a dark purple color, in very compact bunches,

not very sweet, has a vinous flavor, and is a remarkably good keeper when put up in boxes. Beginning to ripen before the Isabella, it retains its fruit on the vine until the frost comes. It is entirely hardy, foliage looking very much like that of a wild vine.

MR. PRINCE. The Clinton is one of the most important grapes we have in the country now, but its cultivation is much neglected. It is very much disseminated through the State of New York, and it is the most productive native grape I have seen. It is very juicy, and very good wine can be made from it, though not half sweet enough. As a productive, hardy, vineyard grape, I consider it without an equal.

MR. MILLER. There is not a grape in whose behalf I find more pleasure in speaking than of this variety. I have grown it for four years, and it has not known such a thing as mildew or rot. As for the wine, which is sharp, I have used no sugar in making it. I keep it for my friends who may drop in and see me when home. It is pronounced by them to be very good. The grapes when perfectly ripe, are quite good. The description given by our friend Downing in the revision of his friend's book, when he says "when perfectly ripe are very good," I think just the thing.

MR. PARRY. This species has succeeded with me better than any other. I consider our location unfavorable to the culture of the grape in general, as many others (spoken of in other places) do not succeed with me. When the time for the grapes to ripen arrives, the leaf falls off. The vine retains its fruit to the end, and seems admirably adapted for cultivation with us.

DR. ESHLEMAN. I have afforded a great deal of care to the cultivation of the Clinton, Schuylkill, Catawba and Congress grapes. None of the bunches of these varieties have such a number of grapes upon them as the Clinton, which is literally filled; and but for the last hail storm, would have produced the most magnificent crop I have yet had. I think this is decidedly a grape we should cultivate.

DR. GRANT. I have cultivated the Clinton for many years. I suppose no one attempted its dissemination earlier than I did. At that time we were in want of a grape that would reach a more northern latitude than the Isabella. It has a very long bunch, the berries being thickly scattered; produces a good crop, but is not capable of producing a very heavy crop. Since others have come into use, I have kept up a little supply, for those who wish to make up their collections complete. It is a grape which will grow for many years with but little care. I have seen it this year more completely stricken down with the mildew than any grape that has come under my observation. It blooms very early in the season, but does not ripen or become eatable until after being touched with the frost; then it becomes very palatable. I have discontinued its cultivation, except in rare instances.

THE PRESIDENT. One of the most vigorous frost vines I ever saw; but I have seen this grape rot a little.

MR. HOOKER. I have not seen the grape this present season, my large vine of the Clinton having mildewed. It is the only instance of that variety mildewing I know of. I was much surprised at the fact, but consider it an exceptional case.

DR. HOUGHTON. I have the Clinton Grape, and

would confirm the remark made, that it mildews in some places, and not in others; vast amounts of its foliage are destroyed with mildew. We do not consider it of any value, except for its enormous growth, which causes a fine shade, suitable for an arbor.

MR. GRIDER. I have about two hundred vines of the fruit. It has mildewed under the leaves, and we have a very poor crop, rotten and defective. When ripe, it makes very good wine.

MR. QUINN. I have had it for four years, but not one has mildewed, even when the Catawba and Isabella were entirely covered.

MR. LOOMIS. We have had a valuable crop of it in our State; said to be perfectly ripe, and bears well—better than any other variety.

THE MARION.

MR. STRONG. I introduce the Marion, (specimen exhibited.) It answers the description of the Ohio Marion. The size nearly up to the Isabella—not quite; color black, and the fruit presenting quite a fair bunch, perfectly free of rot or any indication of it.

MR. PRINCE. I would remark that the first Marion was sent out by Mr. Longworth; the second by Mr. Shepherd, of Marion. I ask the gentleman which of these berries this is?

MR. STRONG. I received my information from Dr. Grant.

DR. GRANT. Mr. Strong has undoubtedly the one designated by Mr. Longworth. That designated by Mr. Shepherd is better known as the York Madeira. I have received cuttings from Mr. Shepherd that have proved identical with the York Madeira or Schuylkill Madeira. They are much less vigorous grapes, and do not ripen so early. It blackens early, but is not fit to eat until touched by the frost. Its berries and branches often attain a great size.

MR. PRINCE. I would like some gentleman to specify the distinguishing traits of the Marion and Logan.

DR. GRANT. The leaf the Logan is not more than half as large as the leaf of the Marion. It may perhaps be of the same family, but the Logan becomes soft in its root, and bears much earlier than the Marion. A characteristic never wanting in the Marion is its strength of vine, which is not observed in others; clusters clinging to a tree with more tenacity than any other vine, in a manner expressive of great tenderness. It is much more rapid in growth than the Logan, but is one of the same general family—the bunches being large and small.

THE PAULINE.

MR. MITCHELL. I introduce the Pauline.

MR. SCHLEY. I have not progressed far enough in its culture to give any definite or reliable information to the meeting. I have been favorably impressed with it, and think it an admirable grape, a compact bearer, very light, full flavored, and delicious; will make an excellent wine. It is of a purple hue, very much the color of the Warren; a prolific grower, and ripens about the month of August.

MR. MILLER. I have had the fruit growing for two years perfectly free from mildew, and perfectly hardy, always looking dull.

MR. BERCKMANS. The Pauline has been cultivated

by some persons for upwards of fifty years as a wine grape. Its quality as a sweet-tasted grape has no superior. It has another advantage—ripening early in the last of September. It has, with us, mildewed, when the leaf has crumpled up, and has been preserved afterwards. It is not a good grower the first or second year; after that it grows well. The size of the bunch is ten inches, very compact, and of a pale lilac color. Very sweet, and we consider it one of the best we have. There is another grape which ought not to be confounded with the Pauline, called the Logan. The vine of the Logan is rather of a tender nature.

MR. MITCHELL. I think most of these Southern grapes do not do so well with us as in the South. I have never yet tasted them as sweet in the North as in the Southern States. It has occurred to me, that if I had brought all these seedlings up North, they would have lost a portion of their flavor. I recollect the Logan, Catawba and Diana very much improved by being grown in the South, and a number of our seedlings of this neighborhood improve very much by growing from hence to the South.

MR. BERCKMANS. The climate only makes the difference.

MR. CAMPBELL. I wish to ask the gentleman which of the fruits—the Logan and Pauline—ripens earliest?

MR. BERCKMANS. The Pauline ripens earliest. The Lincoln Sumpter resembles it in bunch, but is larger; has a juice, but is a poor bearer.

DR. GRANT. In reference to the flavor of the grapes in different latitudes, I would remark that the flavor of Southern grapes is not always indicative of their fineness and sweetness. Persons going from the North and tasting the Lenoir, in full sweetness at the South, are disappointed in their expectations, it having a taste suggestive of wine. Such is the case with the Pauline in the South. It is an exceedingly aromatic grape, in addition to its vinous properties. The Devereux and that family are sweeter than the others, but still strictly vinous; yet many persons would class them, in comparison with those known as vinous grapes, as particularly luscious.

THE PRESIDENT here exhibited a few specimen peaches, from the vicinity of Louisville, Ky., called the Grand Admiral; also two pears known as Carey Pears.

ALLEN'S HYBRID.

DR. GRANT. I introduce the ALLEN'S HYBRID. My experience in its cultivation is not extensive. I have known it for three years—two years in the open air. It is now ripe, and but for a mistake I would have some of them on exhibition. Most beautiful in appearance—more completely transparent and lucid than any I have grown in the open air. It is very much of a *chasselas*, with a tendency to make good wine.

MR. STRONG. I have not fruited, but have it growing; very strong in its growth and clings a long time to the fence, until perfectly ripe, without becoming rotten. It seems to me to be one of the best grapes.

PRESIDENT. I have great respect for the opinions of the gentlemen who have spoken, but we have understood in Massachusetts, it was rather late in ripening. I concur in what has been said in relation to the excellence of the fruit. It resembles the Chasse-

las, and has what I particularly like—a little smack of the native aroma—just enough to make it piquant and inviting. I think it a very superior grape. Mr. Allen informs me he has quantities of the Isabella and other varieties, which have been impaired by mildew, when this has not been touched. It is a most vigorous grower, and is now ripe, which fact, in the opinion of Doctor Grant, proves it a very early ripener. All the specimens exhibited by Dr. Grant have been grown under glass.

MR. STRONG. In comparison with the White Chasselas, it has the advantage of not being so late a grape.

ROGER'S HYBRIDS.

MR. PRINCE. I wish to have some information in regard to ROGERS' HYBRID. I have twelve varieties in cultivation, which have not yet fruited.

DR. GRANT. My information is not very accurate in regard to these grapes. I have had but two years' observation of it. In reference to the growing and hardness, I entertain a strong belief, based chiefly upon a one year's observation. There are three varieties which approach the BLACK HAMBURG, with a greater degree of earliness—more so than the Isabella. Number 5 on exhibition I remember as one of the best. I give my information from the grapes grown in Salem. I saw them on the vines there on the open ground.

THE PRESIDENT. I have to acknowledge that the Rogers' Grapes are the best that I have fruited on my grounds. I have never seen Mr. Rogers' vines, but it is not my custom, occupying an official position as I do through your kindness, to give my name to fruits, or endorse them, unless well satisfied with their properties. Mr. Rogers is a very modest young gentleman, occupying the Secretary's berth in an office in Salem, and has devoted a portion of his time to the art of fruit cultivation. I confess I was surprised when he sent me his grapes, and wrote that he himself had produced them, and given to them his name. On the spur of the moment I wrote a reply, and told him that although I thought his method practicable, very few had skill and patience enough to go through the thing successfully.

(The President here read an extract from his biennial address of 1860, referring to this subject. He continued:)

Those gentlemen who have received some of these grapes, we would like to hear from. I will only state that I was much surprised at the good quality of many of them. The vines are grown but two feet apart, being run up to a height of twenty feet along the terrace. Some of them I thought quite equal in size and quality to the Diana, but a much larger berry, and having larger bunches. Those crossed with the Black Hamburg were quite as handsome as any foreign bunch of Black Hamburg. Being grown under these circumstances so well and handsomely, I have been induced to believe that they might be raised as fine grapes as the Black Hamburg. I would state that I have been favored with an examination of them, and have written to Mr. Rogers that I believed he had conceived a new era in the cultivation of the grape.

MR. MILLER. Mr. Rogers was kind enough to send me some twenty-seven varieties of those grapes. The fruit was small—in one sense remarkably. The most of the bunches were sour. Among those varieties I

would only mention that No. 1, which agrees with the *Salem Under* was my favorite, and to my taste the best of the lot.

THE PRESIDENT. I think Mr. Rogers himself does not know which is the best.

MR. MILLER. That may be. Farther south they are of a better quality. The three numbers, 1, 15 and 19 are the only ones that I can recommend very highly; the others were not fully ripe.

THE PRESIDENT. In connection with the remark I have made, I think we ought to be very cautious indeed, in recommending a new species. I mentioned Mr. Rogers' grapes as being very fine, without having received any great cultivation. At the Horticultural Society of Salem, they received a premium as being better than the Concord; therefore, I arose to state what I have stated, but not to say anything which might particularly interfere with the growth of these grapes. I know that No. 1 is a very splendid bunch, so is No. 33; but I desire to refrain from commending anything until fully satisfied of its excellence.

MR. PRINCE. I make no comment upon these grapes. I asked merely to have the subject brought forward. I obtained from Mr. Rogers 12 descriptions of this kind; several of those varieties are very light. Mr. Rogers seems willing to elicit information from others, and the suggestion made that some of them are suited only to the Southern States may be of use.

MR. MILLER. I never opened a box of grapes, the appearance of which did so much astonish me as these, on account of their enormous size, some being even larger than the Hamburg.

MR. CAMPBELL. The growth is more vigorous. I have understood that they have mildewed in Mr. Rogers' garden, and that is the case in southern Ohio.

MR. STRONG. I have found mildew on Mr. Rogers' varieties more than on any other; but I am not sure it is a fair test, as Mr. R.'s were more exposed than the others.

THE EMILY.

MR. LYON. There has been a grape before the community a long time, called the Emily. There is much confusion in respect to it. I have received a plant which promises to be truly worthy. I would like to hear some experience in relation to the true variety and characteristics.

MR. MILLER. I am charged with sending out the spurious Emily extensively. I got it from headquarters, Mr. Raabe himself, from whom others also received it. It is perfectly worthless, not even fit to graft on.

MR. MITCHELL. In justice to Mr. Raabe it should be stated that there is a similar grape, one better adapted to this climate. I have grown it and found the fruit not to ripen as soon as the other, but it was a most excellent grape of a copper color and a very good bearer.

MR. PRINCE. It was first sent out by Mr. Raabe as the Elie, afterwards the name was changed to the Emily.

MR. RUTTER. There is another grape somewhat marked. It has a good deal of notoriety through the East—

THE MASSACHUSETTS WHITE.

It is a grape as hardy as the Diana.

MR. STRONG. I was a member of the fruit committee of the Massachusetts Horticultural Society. As such I am sorry to say that the least said about and the less it is cultivated the better. It is a white grape.

MR. RUTTER. It is so reported to be a white grape, but I have seen reports from Plymouth, Massachusetts, and other places, that it was not a white grape.

THE PRESIDENT. The Massachusetts White Grape, as Mr. Strong has already said, is unworthy of cultivation.

MR. STRONG. The grape as exhibited and sent out in Massachusetts is not white. It approaches the white only. It is very pulpy and hard, utterly unworthy of culture. Several persons who have cultivated it giving the same report.

MR. RUTTER. I can confirm every thing said in the report of the Massachusetts Horticultural Society, on this subject. I think it utterly worthless and a miserable fox.

MR. REID. I consider these accounts of it true.

BLACK VIRGINIA.

MR. MILLER. I introduce the Black Virginia. It grows wild throughout Virginia, and is very black, and sour enough to make vinegar.

NORTON'S VIRGINIA.

MR. PRINCE. I introduce the Norton's Virginia. I received it several years ago from Dr. Norton of Richmond, Virginia. It was then said to be a hybrid between the Meurier of France and some other grape. It appears now that this Northern Virginia grape is found wild in various sections of that State. A grape sent from Columbia, S. C., by James G. Genyard and which he stated he found wild some thirty years ago, is very much like this Norton, only a great improvement on it; I saw by statements last year, either written or printed, that vines of it are found in different parts of the South. It is a black grape, exceedingly hardy, will stand the winters of Massachusetts, and will succeed there in vineyard culture.

There is a gentleman at Shrewsbury, who last winter made some 17000 gallons of wine, who has this grape, under culture. It was ripe some time ago, and makes most a vigorous wood produced between growths. He has the Herman Grosser there, and it is considered the basis of his vineyard.

THE DIANA GRAPE.

DR. GRANT. I have very little to say in reference to this grape, as it is one I have disseminated and think it of considerable value.

DR. HOUGHTON. I have seen it at Dr. Grant's and admire it much more than any other. It is an excellent grower. I have not yet fruited it, but admire the flavor. Dr. Grant says it is a little inclined to rot. With me it is certainly a very beautiful and pleasant grape.

MR. REID. I would ask for information from Dr. Grant whether it has not a hard pulp.

DR. GRANT. It is like the Catawba and that family, and requires a season almost as long as the Catawba

for ripening. The Diana as the season advances acquires an excellent richness and fineness of flavor. A week or two hence it will be in its season.

MR. HARRISON. I have fruited it for several years. The first bunch I got gave great promise, the fruit improving very much with the age of the vine. The objection made as to its pulp being hard is of very little consequence, since the hard pulp disappears in time. It requires to hang on the vine, and will hang on it till frost comes. I have about 15 or 20 varieties, and find without exception—the Delaware only—it has pleased more tastes than any I have had. It makes a good but not a rapid grower, commencing to ripen before the Catawba, but is often times not ripe till after that variety.

ONTARIO GRAPE.

THE PRESIDENT. I propose the Ontario Grape.

MR. PRINCE. It will prove to be the Union Village Grape.

MR. MILLER. I received it from Mr. Wright, of Canada West, as having originated upon the banks of the lakes. The vines he has sent me have been about six years old. The person who brought the vine thought it a Black Hamburg. It proved to be perfectly ripe and luscious. The grapes are enormously large, of the size of the Black Hamburg, and will weigh from one to one and a half pounds. The leaf is not as pubescent as the Union variety. It is a purely native grape.

MR. BARRY. I saw a grape said to be the Ontario at Rochester, New York; had a very thick skin, is a worthless fruit. A gentleman informed me he understood the Ontario to be a foreign grape, and it seems to me to be such.

MR. MILLER. We have grapes no better than those described, but I consider them not foreign grapes. There are kinds which may be divided into classes: bitter, watery and fleshy.

MR. PRINCE. I think the grape is an American one. MR. REID. I do not think there is any doubt of that fact. I have only a few bunches which are not exactly round in shape.

MR. SALTER. (Rochester, New York.) About two years ago I got some Ontario grapes and fruited them the first year. The fruit in part and the bunch is rather small, have ripened early. It is certainly a native and I think a very good grape. My fruit vine was ripe about three months from the time it was put under glass. I thought it then a very good grape, but rather small. The skin is tough like that of the Isabella, a very strong grower. I would like to see it ripen well out of doors. I never had but one specimen known as the Ontario.

MR. VICK. I saw the grape at Mr. Salter's. They tasted very much like the Isabella, full as tough a skin, and just about as much flavor. I do not think that any one tasting them could tell them from the Isabella.

MR. SALTER. I think they are a little sweeter than the Isabella, at the same time ripening as well, but it took longer to ripen the Isabella.

(The discussion on Grapes was here closed.)

PEARS.

Varieties which promise well.

ADAMS.

MR. REID. I consider it a good summer pear. Alpha, Bergen, Beurre d'Albert, Beurre Gris d'Hiver Nouveau, allowed to stand without discussion.

BEURRE HARDY.

MR. BARRY. This is one of the best pears on our list. As we have adopted a resolution not to add to the list for general cultivation we cannot so add it; but it appears to me equal to any I have in excellence and keeping well.

THE PRESIDENT. I concur entirely in that opinion.

MR. REID. I also concur in those remarks.

MR. HOYT. It is a long time coming into bearing, but I concur in regard to its good qualities.

MR. FIELD. The Beurre Sterkmans is sometimes grown for it, and I have received it for the Beurre Hardy.

BEURRE KENNES.

THE PRESIDENT. A very excellent pear.

BEURRE L'ANGELIER.

THE PRESIDENT. I think as well now of this pear as I ever did. A very excellent variety, beautiful, but it is a shy bearer I have had a tree of it for twenty-five years which never bore twenty-five pears per year.

MR. HOYT. I have had one single tree of this variety, bearing about twenty pears per year.

THE PRESIDENT. It is the best winter pear I have.

MR. WARD. I have had four or five of these trees for three years which are all now bearing.

MR. HOYT. The trees I spoke of have been planted two years, and have blossomed. I think they will bear in another year.

MR. BOYNTON. I had twelve trees of this kind last year which bore flowers but no fruit.

BEURRE NANTAIS.

MR. FIELD. Has scarcely any color but bears abundantly. Very insipid, being nothing but sugar and water. I have now fifty trees in bearing.

MR. BARRY. A very sweet large, long, fine pear.

MR. REID. I have had it in bearing; pretty fair, though I judge from only a few specimens.

THE PRESIDENT. It makes with me a very fine pear. It is a handsome straight grower, bears an excellent quality, and is long.

CHANCELLOR.

MR. REID. I have had it in bearing for some years. It is not very handsome in appearance.

MR. HARRISON. It originated in Germantown, on the grounds of Mr. Chancellor. All the original trees are dead. The fruit I have never seen.

MR. ESHLEMAN. I have fruited it for several years, and it still retains its original qualities.

MR. BAXTER. Very large, grows well on the quince stock.

CHARLES VAN HOOGHTEEN.

THE PRESIDENT. A vigorous grower, medium quality and is never fit for sale in the market.

COLLINS.

THE PRESIDENT. A full grower.

MR. SAUL. It will kill any tree you put it on.

THE PRESIDENT. It has killed trees with me, no matter how vigorous they have been. There are very fine trees in Massachusetts which it has destroyed.

MR. FIELD. On account of the great difficulty of uniting it with other stock, I move it be stricken off. (Stricken of the list.)

COMTE DE FLANDRES.

MR. SCOTT. Is it the same as the Mareschal de la Cour?

THE PRESIDENT. I am not able to answer the question definitely.

CONSILIEUR DE LA COUR.

THE PRESIDENT. Fine and good.

COMTESSE D'ALOST.

DELICES D'HARDENPONT DE BELGIQUE.

M. BARRY. It is not ranked very high.

DIX.

M. FIELD. I never knew a good Dix to be sent to New York from within a hundred miles of it.

M. SCOTT. I can show from the collection now on exhibition very fine Dix pears, much larger than those from any other locality, and I can also show them destroyed in the crop. Some are very fair, and others are rusty and cracked.

ROUSSELET D'ESPEREN.

STERLING.

MR. ESHLEMAN. It has succeeded admirably with me.

MR. BARKER. I have fruited this year, and for all market purposes I think highly of it. The prettiest bearer I ever saw. Not of very good qualities but a charming tree.

MR. LYON. This pear has been cultivated almost as long in our vicinity as the original tree has stood in its native locality. With us, unsophisticated as we are in regard to pears, many do not like the Sterling, while others prefer a sweeter pear. In our market it has no superior. It sells rapidly at high prices, and bears very finely.

MR. BARRY. A very good pear.

THE PRESIDENT. Very fine in Boston as a market pear.

THEODORE VAN MONS.

THE PRESIDENT. Handsome pear, fine tree, excellent quality.

DUCHESSE DE BERRI D'ETE.

THE PRESIDENT. A very handsome pear.

EMILE D'HEYST.

THE PRESIDENT. It is a straggling tree and looks almost like a wild tree; not a pear of great excellence.

FONDANTE DU COMICE.

MR. HOTT. Very slow in bearing.

MR. REID. Is an early bearer with me. I consider its qualities as the very best. They bear sometimes (last year, for instance,) very well. It is a great bearer.

THE PRESIDENT. I fully concur in that opinion.

FONDANTE DES CHARNEUSE.

MR. SAUL. A very fine pear, delicious and fruitful. It has been confounded with the Desinee Van Mons, Duc de Brabant and the Waterloo.

FONDANTE DE MALINES.

MR. SAUL. Of good size and good qualities.

FONDANTE DE NOEL.

MR. BARRY. A very handsome pear but never ripens.
(Stricken out of the list.)

HENKEL.

MR. REID. I consider it one of the very finest orchard pears.

HOSENSCHENK.

MR. ESHLEMAN. I will take the liberty of speaking for Mr. Garber. He told me that from the original tree the pears were remarkably fine this season, and I know, from personal experience, it is one of the best pears taken into the Lancaster market. Within thirty miles west of this city it does succeed.

MR. MITCHELL. It is very popular. A friend of mine having bought a few thought them so fine that he ordered a number of trees.

MR. LOOMIS, Indiana. It does very well with us.

MR. RUTTER. My specimens all came from Columbia, Lancaster county, and that is the native place of this tree. It is almost as remarkably fine as the Bartlett, and has the synonym of the watermelon.

HULL.

MR. SAUL, A very good pear.

JALOUSIE DE FONTENAY VENDEE.

MR. BARRY. An immense pear, of very fair quality.

MR. SAUL. A prodigious pear, and one that pays well.

MR. ESHLEMAN. I cannot cultivate it.

KIRTLAND.

THE PRESIDENT. A beautiful tree, and bears a handsome fruit.

MR. ESHLEMAN. Rotten at the core.

THE PRESIDENT. We all rot there at last! (laughter.)

LODGE (OF PENN.)

MR. BAXTER. I have examined the fruit, it has a plain deep russet color, and is fine quality and below medium size.

THE PRESIDENT. Full sized, with us, a fine straight bearer.

MR. REID. Of the very finest quality this season.

MR. MITCHELL. Of the finest flavor. No pear is equal to it, and in other respects is worthy of being kept on the list.

MR. STEELE. I concur in those remarks.

NILES.
(Passed)

OTT.

THE PRESIDENT. Very fine, but too small.

MR. ESHELMAN. A fine grower, fruit small, flavor inimitable. All pronounce it a first-rate pear, and desirable on account of its coming in early.

MR. HOYT. It ripens in September.

MR. REID. Its size is against it.

PHILADELPHIA.

MR. MITCHELL. Has a good local reputation, originated near this city, and is a good pear.

MR. RUTTER. I was the other day shown a specimen of the Philadelphia, the only one I have ever seen, and I considered it of the first class.

MR. MITCHELL. It has the synonym of the *Latch*.

MR. HOYT. It is a fine large pear, but it is better double worked.

MR. BALDWIN. It is one of the best pears I am growing.

PINNEO.

PIUS IX.

THE PRESIDENT. Since I introduced the Pope, it may be well that I should say something about him. It is a large pear, very handsome; year before last I thought it not so abundant a bearer; bearing very handsomely, and nearly up to the largest size.

PRATT.

VAN ASSENE; OR, VAN ASCHE.

MR. BARRY. A fine, large, handsome pear.

MR. SAUL. A sweet, delicious, nice pear, never seen it large.

THE PRESIDENT. Not usually large, but I have it large this year.

MR. BERGER. I agree with Mr Barry, but it has no color about it.

MR. BARRY. It almost invariably has a bright red cheek, as grown in our neighborhood.

WALKER.

THE PRESIDENT. Well known I believe, large size, of a green color, has good qualities.

ZEPHIRIN GREGOIRE.

MR. SAUL. A great bearer, and a good pear.

THE PRESIDENT. I concur in that opinion.

P E A R S, (ADDED.)

WASHINGTON.

MR. MITCHELL. I would call the attention of the Society, to a pear that has no place in any of our lists, called the *Washington*. It has the best local reputation of any I know of, being the only one in fact, that comes regularly to the Philadelphia market. It is the most beautiful pear that grows. In order to give it its merited promotion, I move that it be added to the list of promising well.

(Added to the list.)

BEURRE MENTIGNON.

MR. FIELD. I introduce the Buerre Montignon. The trees are perfectly hardy, very strong, and rapid growers. I believe M. Whiting has a synonym for it, the Frederick of Wurtemberg.

MR. WHITING. It has proved worthless in my section.

MR. SAUL. As the assertion has been made that this fruit has been known under the name of Frederick of Wurtemberg, I would state that it is not the old, but the new Frederick of Wurtemberg.

MR. REID. A very good market pear.

DOYENNE ROBIN.

MR. HOYT. I introduce the DOYENNE ROBIN. It is large, round, and of a green color.

DR. IVES. I have known it for four or five years, very hard, large good size, very handsome.

MR. BARRY. It appears to be good, but I don't think it handsome. It is round, but the tree has always seemed to me, not to have a healthy appearance.

THE PRESIDENT. I have had it in cultivation ten or fifteen years, it has black spots, and finally dies down.

MR. BERGEN. It is a good pear, and should not be rejected. The down-east description of it comes nearer the Windsor Belle than any other. It has been raised by us for fifty years, and is known as the most profitable pear sent to market.

MR. BARRY. It is grown extensively in our part of the country, being about the only pear that is sold in the market there.

BELLE.

THE PRESIDENT. One gentleman has mentioned the Belle Pear. It is a favorite market pear, not good for anything and unworthy of cultivation. It comes before all others, is large and yellow tint; buyers of it are uniformly disappointed in regard to its quality. They sell at a high price, and are only sought by the uninitiated, never by those who know what a good pear is. We all agree it is unworthy of cultivation, and the question is whether we should put it on our list.

MR. BERGER. It has been put on the list of rejected pears, when it is one of the most cultivated in the world. There is a difference of opinion in regard to its qualities, some persons prefer it for eating. When it is placed on the rejected list, it is occupying a wrong position.

MR. STEELE. The remarks of Mr. Berger lead me to make one enquiry. Do I understand the American Pomological Society to be organized for the purpose of catering to the bad taste of people who know nothing on the subject, whether we ought to recommend fruits, simply, they have a bad taste, or because of good quality? I wish to be informed on this point.

MR. REID. As an eating pear, it is worthless, as a stewing or cooking pear it is very valuable. No one that knows the pear will buy it for eating.

MR. BARRY. It bears uncommonly well.

MR. BERGEN. We don't eat many of these pears in New York. They are improved by house ripening, and shipped from New York to the Boston market, where there are good judges of pears.

THE PRESIDENT. I agree with what Mr. Bergen has said. It is so, no doubt, but as we are endeavoring to establish a standard of Pomology for the United States, of character, it is very doubtful whether we ought to admit that pear anywhere.

MR. SCOTT. The specimen I now present is the NEW BARTRAM.

BARTRAM.

MR. HARMER. This pear is well known to Doctor Brinckle. The Doctor has hunted up the authentic history of it from the Bartram family. It is considered so much superior to the Old Bartram, that that pear should be put off the list and this inserted in its place. Until that is done, persons who have the Old Bartram in cultivation, being uninformed of the superiority of the New Bartram, will produce confusion in their cultivation. I had proposed to the Pennsylvania Horticultural Society, that this pear should be presented under the name of the New Bartram pear. I now propose that the word NEW be inserted in the place of the word OLD in the list of promising well. The original tree is dead, but this fruit came from suckers obtained from the Bartram family.

THE PRESIDENT. I would state that the committee on native fruits having had this pear under consideration will report on it.

MR. ESHLEMAN. I propose the FONDANTE DE MILLOT or CERRIER. It is about the size of the White Doyenne.

THE PRESIDENT. It is impossible for us to decide whether this pear is the same as the White Doyenne. In Massachusetts, after having had it for many years we have given it up.

BONNE DE ZEES.

MR. FIELD. I propose the BONNE DE ZRES. It is a new name for the Princess of Wirtemberg. It is very large, handsome, light yellow, and is good as an eating pear.

MR. STEELE. I never saw one in my life that was not diseased. It will not live in my country.

MR. FIELD. I agree with Mr. Steele. It has native habits.

MR. IVES. I have a tree of this kind six years of age, perfectly healthy, the wood perfectly clean. I have been watching for the canker upon it, have got no fruit as yet. It is a good and healthy grower, perfect foliage, but I want to see the fruit.

MR. SCOTT. I have seen the fruit of the Boune de Zees in several sections of the country. I do not think that the tendency to crack extends to every tree. At present I know of an instance of a tree which bears a full crop of averaged sized fruit, without a cracked one among them.

MR. QUINN. I have seen specimens with indications of cracking on the bark. They make good pears.

MR. BARRY. The tree is a moderate grower, very erect and handsome, though the fruit will never rank as high as some others.

THE PRESIDENT. I ask for information whether it is desirable to introduce into our lists any tree, of which it is said that the tendency to crack in the bark, injures the fruit and renders it unfit for sale.

MR. HOYT. It will not alter the character of the tree when it is grafted on to a sound stock. It is handsome, and the growth and foliage are good.

MR. FIELD. Did any one ever know of a tree dying of a crack?

THE PRESIDENT. Yes! one died out completely with me.

MR. REED. It is liable to crack in the bottom.

EUCHID.

MR. BALDWIN. I propose the Euchid, found in Chester County, on a fence among a lot of stones, not far from the forks of the Brandywine Creek. It is one of the very best pears there is. I had hoped to see it occupy the highest place on the list that promise well.

MR. BAXTER. A very fine pear.

MR. BARRY. First-rate and of middling size.

MR. RUTTER. One of our finest pears, of medium size.

(Placed on the list.)

SELLECK.

MR. SCOTT. I proposed the SELLECK HARTEY, a long time before the Society, but we could never get any thing done with it. The native fruit committee has reported upon it, but it has never been put upon our list.

MR. BERGEN. I got it from Mr. Downing some years ago, it grows so slow, that I consider it the poorest grower I ever saw.

MR. SCOTT. It is a pure white yellow in color. I believe it to be a seedling of the Burnett.

MR. LYON. It is a very fine grower and promises well in Michigan.

CONGRESS.

MR. STEELE. I propose the CONGRESS. It has a good reputation.

MR. BOYNTON. Mr. Smith has two specimens in exhibition.

DES NONNES.

MR. HARRISON. I propose the DES NONNES. It is a good pear and comes in season in abundance. The fruit is abundant with us, of medium large size, has a rapid growth, is rather striped. It is three-fourths ripe now, very juicy, when entirely ripe very fine.

DR. WARDER. Though not a western fruit, we western men claim to have discovered its merits first. It continues to maintain a very high reputation with us in the character, both of the fruit and the tree.

MR. FIELD. The pears on the same tree as those on exhibition, will be very excellent specimens, but some of them will be insipid. It has certainly want of juice more than any other pears we know of.

THE PRESIDENT. An abundant pear in Boston, highly flavored, not very nice, but a fruit of excellence.

MR. SAUL. A very good pear.

DR. HOUGHTON. Some gentlemen think highly of it. I have it fruiting and think it beautiful. Mr. Downing's description of it, is that the flavor is medium. Mr. Smith's, of Syracuse, is equal to that of any other pear and it fruits early. (Placed on the list.)

OMAH PACHA.

MR. HOOPES. I introduce the Omer Pacha. I think very highly of it, very delicious, ripens just before autumn.

MR. REID. I had it ten years before it ripened with me, but it now bears. It does not keep very long, it resembles Beurre Harly very much in shape, but they ripen three weeks apart.

(It was referred to the Committee on Synonyms.)

STEVENS' GENESEE.

MR. LYON. I move that Stevens' Genesee be removed from the rejected list. It is very highly esteemed in the west. For the reason that it did not succeed in certain sections it was placed on that list.

(The motion was agreed to.)

MR. LOOMIS. It is a very fine pear and I move that it be added to the list of promising well.

MR. SCOTT. The reason of its being on the rejected list was on account of its being diseased.

MR. RUTTER. The pear was diseased, not only in one locality, but in several.

MR. HOYT. I think there must be a spurious kind in cultivation, as I formerly heard favorable accounts of it; but have been much deceived in its cultivation.

(Mr. Field; here read an extract from pp. 52 of the biennial report of 1858, showing that this pear was stricken from the list for general cultivation.)

MR. BERGEN. The pear with me does well, but among some sixty varieties I have known, the leaves became blighted, though that does not affect the fruit.

(Two specimens of pears were here presented.)

GOLDEN BEURRE DE BILBOA.

MR. BARRY. Does the Golden Beurre de Bilboa sustain its reputation?

MR. LOOMIS. It is a very fine fruit.

MR. FIELD. I have never seen it in fine condition.

DR. WARDER. I find it does well on a Quince stock and is a good pear for the consumer.

MR. RUTTER. I consider it a second-rate pear.

MR. BERGEN. It lives with me on Pear stock.

If I had the power I would strike it from the list.

MR. BARRY. I have never seen a perfectly healthy one.

THE PRESIDENT. Although one of our second-rate pears it takes prizes in our shows. It is not remarkable for its bearing; my trees have made shoots this year three feet long. It is quite a popular pear with us. It is second-rate but juicy.

MR. LYON. I propose we close this list, (Closed,) and that we take up the subject of the cultivation on the Quince.

DISCUSSION ON PEARS ON QUINCE STOCKS.

DR. IVES. I wish to know the experience of the gentlemen present in regard to the FLEMISH BEAUTY; with me it is one of the finest growers.

THE PRESIDENT. The opinions of this Convention passed upon it two years ago were favorable to its cultivation on a Quince stock.

MR. FIELD. I think it is one of the best for the purpose. It is the best on Quince stock that we have.

MR. BARRY. That is so when you can once get it to commence. Out of three hundred trees you will get perhaps a dozen to live.

MR. LOOMIS. With me it has not done well on a Quince stock, but it does better than the *Tyson*, or the Seckel Pear.

MR. BERGEN. With me, after it has once taken, it does very well.

MR. REID. I have found no difficulty in budding it. By double working you can get good trees.

MR. QUINN. With me they are the strongest growing tree that can be put on the Quince.

MR. BARRY. I do not highly approve of it.

MR. BAXTER. I should like some gentlemen to try the Washington Pear on a Quince stock. I have never seen it so.

MR. FIELD. I move we strike from the list the SOLDAT LABOUREUR. It is not worth cultivation. I know of two hundred others that are better than it.

MR. BARRY. I consider it a good Pear.

THE PRESIDENT. It is not expedient to strike it off. Does the *Tyson* Pear do well on the Quince?

MR. LOOMIS. It does well with us.

MR. BAXTER. It does well with me.

MR. LYON. So it does with me.

MR. QUINN. I concur with the last two gentlemen.

MR. BARRY. If it succeeds with you now, it will not do so very long.

MR. LYON. It grows well in Michigan on the Quince.

MR. REID. Does the Doyenne d'Ete do well on the Quince.

MR. LYON. It has done well with me for four years. It grows well. It is not very strong but is productive.

MR. HOOPES. The BRANDYWINE does well on the Quince.

MR. FROST. It does well with me also on the Quince. So does the Kingessing Pear.

MR. SMITH. Osband's Summer Pear does well.

MR. BARRY. It does well with me.

MR. REID. I concur in that remark.

MR. SAUL. It is first-rate.

MR. BAXTER. I have found it difficult to get information in regard to the Duchesse d'Angouleme.

MR. BARRY. Dearborn's seedling does well for two or three years.

MR. LOOMIS. It has failed in the west.

MR. FIELD. The Flemish Beauty, Urbaniste and Seckel do poorly with me at first, but soon become good.

Adjourned till 3 P. M., Thursday.

THURSDAY AFTERNOON.

DR. WARDER. There is a disease in the grape I saw two years ago, like this on the branch on the table. I should like gentlemen who are acquainted with the disease to give some account of it.

MR. FULLER. I know nothing about this disease.

MR. HARVEY. I am not prepared to give any cause for this disease. Our grapes are a complete failure this year, but not from mildew. The disease I allude to causes a scab or dry appearance on one

side of the grape. The vines are attacked by the same scabby appearance.

MR. FULLER. Almost thirty years ago, several Italians planted vines in their vineyards in Illinois, but their grapes were worthless, although the vines lived. The cause of this I know not. I suppose it was the heavy subsoil in that place. But I found the same thing on the best of drained soils. I experimented by using sulphur, and succeeded well—perfectly, I might say,—but whether at another year it will not fail, I cannot say, but it was for the time being a perfect preventative. I used the sulphur in water, and then syringed the grapes.

DR. IVES. I tried the same experiment, but was not successful.

MR. SCOTT. Sulphur is not generally supposed to benefit any form of mildew, unless applied to a cryptogamic plant. I have never known sulphur to be of any beneficial effect. It will neither dissolve in water or alcohol. I hope Mr. Fuller will investigate this matter, and not lead us to believe sulphur will remedy this disease.

MR. FULLER. I merely wish to say, Mr. President, it did succeed two years in succession, when all other means failed.

MR. SEDLEY. I wish to know on what kind of soil these vines were planted, whether it was inclined or level.

MR. FULLER. They were planted on gravel soil, around a field, and the exposure was to every point of the compass. I did not notice whether they were damaged on one particular point more than on another.

MR. SCHLEY, (S. C.) There has been an impression in my mind, that slope and exposure are very important in the cultivation of grapes, as well as a thorough draining of the soil. I have observed that three days' exposure to a damp atmosphere would produce mildew and blight. If the vine can exhale moisture it will flourish, if it cannot it will blight.

MR. CORNELIUS, (PA.) My grapes are under a glass covering, 120 feet long, with the borders well drained. The first three years my vines did well, but I had some mildew. I painted the house green, opened it daily, and closed it at 4, P. M. The year before last I filled the entire bottom of the house with leaves, thinking that that might aid the grapes, but it had no effect. Last year I tried sulphur, and they did better. I was ashamed to take anybody down to my grape-house; nevertheless, it was a matter of study to me. I had every little crack fastened up, and the grapes ripened beautifully, and the vines were in a good condition. They showed no mildew, and were watered twice a day. I did not have a particle of lime in the house. The house was well watered on the floor, sometimes once and sometimes twice a day. I consider that the air, coming to the vines at different temperatures, creates such a different temperature in the growing; of course the sap is flowing at one time, and not at another. I shall hereafter exclude the air as much as possible. My vines were the Black Hamburg, White Muscat, and the Muscat and Alexandria.

MR. SAUNDERS. I have been giving the mildew some attention. Previous to the middle of August I had no sign of mildew, now there is not a single leaf I have but what is affected; the bunches are

hanging, but there are no leaves. The mildew is caused by aridity. Perhaps it is strange that dryness should cause it, as we always connect mildew with dampness. I think we find the cause in dry air—we find the same disease in the gooseberry and hawthorn—these few weeks of dry weather having brought it out. I think the Hamburgs can be grown with little care. My plan is to never let the ground get dry. I sprinkle it with water twice a day. Again, I open the sashes after the month of April. I have, in a house 40 feet long and 28 feet wide, twelve openings, each three feet square. Under this treatment the grapes should ripen. The lowering of the night temperature hastens maturity. I have proved that over and over again. What I mean is a lowering of from twenty-five to thirty degrees. This other grape mildew I have not seen until this season. Of these two diseases (*Oidium* and *Erysites*) I think one is caused by aridity, but I will not say that the other is caused by dampness. For grapes in the open air, I can only suggest shelter. Mr. Dingee said to me, he had seen a grape vine growing partly on a trellis and partly on the ground; that on the trellis had not a leaf, while the other was perfectly healthy. Many persons who cultivate grapes will see that the outside leaves are entirely destroyed, though enough live to protect the fruit. I have applied whitewash with good effect. I leave the inside planks of my grape-house unplanned, and then whitewash them.

MR. FIELD. A draft of air, it is well known, conveys moisture more rapidly than heat.

MR. QUINN. I will mention another disease prevalent among our vines. It is a spotting of the vine, from the 15th of June to the 1st of July. The young shoot becomes spotted and the leaf yellow; the fruit is stopped, and finally becomes brown and drops off. It is a French disease, called the *Oidium*, and we have no cure for it. If there is any one present who knows how to prevent it, I should be glad to hear from him.

DR. GRANT. In reference to what Mr. Saunders has said about shelter, sometimes I have seen a vine on a trellis, after a severe tempest, more liable to attack than one on a tree. The remedy Mr. Quinn calls for is sulphur. It was tried with success in France when, in 1847, this disease made its appearance.

MR. QUINN. We apply sulphur every morning, and it does not arrest the disease.

DR. GRANT. Three sulphurings are supposed to be necessary, the first one given in June. Death follows after a spot is once made on the plant. In reference to sulphur being soluble or not in water, that has but little to do with the matter. Sulphur is sulphur, whether suspended in water or not. The fumes themselves are necessary, and have a transient action. The fumes are produced by combustion, and by continuous combustion. A mixture with lime is made for the purpose of bringing it to a very fine powder. It is constantly used in France, and is considered perfectly effective.

MR. FIELD moved that the subject of Ground Work be taken up.

GROUND WORK.

MR. FIELD. I have looked at plantations of grapes

with interest, and I am satisfied that deep cultivation, deep trenching of ground, and manuring, is the only way by which vines can be made to produce grapes for any length of time. There is a vineyard of fifteen acres in my neighborhood, under cultivation by a Swiss gentleman, who is well acquainted with their cultivation. They have been attacked by the disease (Oidium), and have borne for seven years but little or no fruit. Although they produced fruit the first three or four years, now they are unworthy of cultivation.

DR. GRANT. Great injury is done to vines by having the roots unprotected on the surface. I am not aware that there is anything peculiar in my system of treating. The ordinary soil would be scarcely the one for the cultivation of grapes. Drift soil has sometimes fertility for five feet in depth, but this soil is very rare. Deep working, and bedding manure below, is very effectual indeed. My compost is manure with about 35 per cent. of muck. It is very advantageous. It should receive some water. If you bury the manure in large quantities, and the roots come in contact with it, they will be destroyed. I keep my soil in good order by a small addition of manure once every three years. The expenditure would vary on soils according to circumstances. We will suppose a field, prepared for growing corn, has a soil of twelve inches in depth, but to make a vineyard, would require double that depth at least. One can calculate something of the expenditure by the labor of turning that under and making fertile soil of it. To go through the process, I would say, make those twelve inches eighteen. To do so economically, put there a wheat crop and follow by a clover crop; after plowing that again, it is ready for a trenching, and six inches of soil would be brought to the top. Under ordinary circumstances, the whole preparation would cost the whole crop for the labor.

MR. FIELD. I suppose, in ordinary conditions, the dung of animals is unfit for soil, unless when mixed with compost. Trees and vines make their bark so as to protect themselves from the winter. I believe that manure should be a long time in compost, and not turned by any chemical process. It should be left for six or seven months, and occasionally turned. The roots of plants are always injured by the application of large quantities of manure. The manure that is used for food for plants must have age, and Dr. Grant does not use any that is not at least from two to four years old, and his plan is the one followed in France. When subsoils are brought to the surface, you must use double the quantity of manure for the second six inches that you do for the first.

DR. BOYNTON. Some gentlemen talk of plants living on manure, others seem to think they gain their subsistence another way. I have noticed that moisture has more to do with the grape than manure. I have got the idea it is not the manure, but the admixture of manure, that is required.

MR. LUTWEILER. I never use anything but compost; I think, in planting, there is no use in wasting manure. Give them compost; apply it on the surface. No plant can take up or receive a particle of manure in the raw state. It must be exposed to the air. Many think by putting it in boxes it will benefit the vine; I believe it must be decomposed.

It must be in a liquid form. By trenching you admit the air. In sand, of course, the air penetrates to a great depth. I will give you a proof of that: you may plant a tree ten feet deep in New Jersey, and it will live; in Rochester, where I live, if you plant it to the same depth it will die.

MR. SAUNDERS. I would like to know how you can prevent air from penetrating a soil.

THE PRESIDENT. The question has been as to what depth manure should be laid. I trust before long to have the matter settled. I have come to the conclusion that manure is entirely useless until it is thoroughly decomposed. The gardener of Louis XIV. said, he would rather have one load of manure on the surface, than twenty under it.

MR. FIELD. I am in favor of surface manuring.

THE PRESIDENT. The plant cannot receive food except in a soluble state. When the ground is shaded with a manure on the surface, then the manure is in a soluble state. An experiment was made in France some years ago, where straw was strewn over the ground in one place, and in another it was without shade. The soil without manure yielded as much grain as the other.

DR. GRANT. I have been asked how much money might be used in preparing a vineyard. After the European manner, \$6000 per acre might be spent.

Adjourned to eight o'clock, P. M.

EVENING SESSION.

PEAR CULTURE—DISEASES OF THE PEAR—GROUND WORK—PLANTING, PRUNING, ETC., ETC.

DR. WARDER. I cannot meet the views that have been expressed by Dr. Boynton. In our place we have a detritus of rocks spread over our soil. The soil being rich, manuring is not with us a matter of so great importance as with you. An analysis of our soil shows an abundant supply of all the materials that are necessary to supply the wants of the pear. In preparing a piece of ground, we care not so much for foreign substances, as for the thorough preparation of the soil. The question arises, where labor is scarce and dear, how we can most cheaply prepare that soil. The soil needs the admission of air. Our method, in the gross, would not perhaps be applicable to you. We look to the cheapest method of preparing the soil, in selecting our site in the first place. Select such a piece of ground where the cheapest labor can be done; among stumps and stones we need hand labor—of course we avoid this. In open prairie we use the oxen or the horse. With us, the double Michigan plow is the very best implement in our possession, by which we can thoroughly prepare the soil. If we have stiff clay we use three yoke of oxen. The double Michigan plow is familiar to all cultivators. It is two plows to one beam. The first plow lifts a portion of the soil, the hinder one throws the soil on top. This plow is so admirably constructed that you may make a furrow eleven inches wide and three deep, or three wide and eleven deep. The depth I run my Michigan plow is fifteen inches, and I do not meet with any obstructions. For deeper culture, and when there is a deeper soil, the subsoil plow, called the lift subsoil plow, I think is the best implement; the effect of it is to loosen the soil, lift it

out of its place, and let it fall back again. You thus have a thorough stirring of the soil through the whole field, of at least twenty inches in depth. The loosening of the soil is thus effected. Further preparation I will leave for those who are better acquainted. I am often asked by my friends, how deep do you dig your holes? I say, if you have ten acres, dig your holes ten inches.

MR. FIELD. The soil in the vicinity of my place is of a very light character, and the preparation must be of a much more thorough character. The means I have taken for Pear trees, have been, first plowing on the surface of the ground, a good dressing of manure, which when washed with the rain, will be a solid body of two inches at least. This is then plowed under as deep as possible, but I am not sure that more than twenty inches, will do us any good, or prove any resource from the evils we have been suffering. On one occasion some trenching was to be done on a piece of ground, to do which I employed several men. When I came to inspect their work, they had dug themselves down to a distance of three feet, six inches, and in this depth of ground the trees were planted, and grew dreadfully poor for a long time. But I have this year found on the soil so stirred up, four years ago, one of the greatest beauties we have. The leaves are in perfect condition, fine, lustrous and healthy, on this doubly trenched ground. On the other ground they are spotted and have dropped. This process of trenching the ground is looked upon as very laborious, needless and calculated to discourage a great many tree planters from putting their trees into such soil, but unfortunately I am located upon this land and have got to live there. About twenty miles from me a quite celebrated orchard has been in existence for twenty-five years. For the last ten or twelve years there have been no pears grown in that ground once celebrated for its production of fine fruits, none worthy of exhibition. But the owner, Mr. Pierce, brings his two hundred and forty varieties to exhibition, and they are scarcely worthy of being brought into the room. The true preparation and planting of the tree is not to stick it into the ground, and get it to bear for one year, but what is done should be permanent. I wish to say a few words in regard to the Double Michigan Plow. I have prepared some twenty-five acres with this plow using four horses with it and four with the subsoil plow, two or three times. I planted about five thousand pear trees, and I believe they are as fine trees as any in this State.

DR. BOYNTON. I am but an infant in the business of raising Pears having had but five years experience in planting Pears. I commenced on a waste piece of ground where the stumps had first to be removed, the ground lying on either side of a hill. I commenced and dug fiercely around my trees and filled up the space with top soil, the whole ground being turned over.

On the east side of the hill I never saw trees grow better. My object is to get the water when it falls upon the ground, into the soil, through the soil, and out of the soil as soon as possible. The reason of this that whatever water has entered into the fibres of this Pear tree, is to be absorbed for the nourishment of that tree, and there is wanted

no more water in the earth to supply the Pear tree than would remain there by capillary attraction. Secondly, if I wanted the water to lie upon the ground I would hackle it for twenty-four hours. After the ground has been once stirred up in this manner I never disturb it. As long as I can remember fine orchards in Massachusetts have been destroyed by plowing up. In consequence the fibrous exhalations of the trees being greater than the absorption could take up from the ground, the trees died. If the tree die it is called fire blight, but I will pass what might be said on the subject. My object is to get the water when it comes on the ground, through it and out of it. In the water there is ammonia. I want to take the ammonia out of the water. In passing through the ground, the water imparts its ammonia to the tree, a gallon of water will hold in solution a gallon of air. In this way the roots of your trees are nourished and there is no necessity to stir up your soil. Let the ammonia be put upon the surface and in this way you may enrich the ground. The ammonia being carried as far as and wherever the water penetrates. The ammonia being in a soluble state, the absorbent roots of the plant can take it up, for I do not believe the plant can ever take it up except in such a state of solution. It is generally thought that carbon is never taken into a plant except by the leaves. I have no doubt that ammonia would, as well as air, take a part of the carbonic acid which is generated by the roots. This hill on which my orchard grows and produces the fruit, contains furrows so steep that you could not plow it without difficulty. It is so steep that the dashing rain we have had this and last year gave no time for the water to go into the ground, but washed away the manure from the surface. The consequence was that I took each hill and made a level around it, and where one tree would be materially higher than another, I left a little dam formed in a basin, and when the water came down heavily, it would stand an inch deep and disappear in the course of time. On this I threw manure composed of phosphate of lime, in the first place, got from vines dissolved in muriatic acid. Another way is to take dog manure in which you have the pure phosphate of lime. The urine of the dog contains likewise other phosphates. I took that and put it upon twenty-six grape vines in the west end of a row of six hundred or seven hundred feet long which runs entirely over my hill. I pointed out the difference between those grapes and others. The grapes are green and the foliage more healthy, and the vines stronger nourished solely by phosphate and nothing else.

When the wind and hail came on the 20th of August it injured my crop. The leaves looked as if sulphuric acid had been spilt upon them. As you would pass over the hill you would see the vines were not so healthy nor the fruit quite so large except in the places to which I have referred. A large number of Pear trees come through a vein of serpentine. I picked up some pieces of this serpentine, pulverized them, and put it around some of my trees. Three of these trees are as rusty as the *Oxbury Russet*, now on exhibition. Every one of the pear trees where this magnesia had been put had this character. The variety is the *Bartlett*.

DR. BOYNTON further stated that he had obtained

some phosphate of lime by means of which he lately got four large pears from a tree eighteen inches high and only two years from the bud. From another set of trees, by means of bone lime containing phosphoric acid, enviable results. A great mistake is to manure trees with raw phosphate of lime; in putting this phosphate of lime along his trees, he mingled it with soda, and put likewise a quantity of ashes, and those trees which bore the brightest colored pears were those which had this mixture around them. I believe that the chloride of lime and calcium of soda had an influence as a fertilizer, not generally recommended by agriculturists. All the chlorides you may get will have an influence in the analysis of the skin of the Pear. I took about one handful of ashes to each tree. In it was mingled the chloride of calcium, of sodium and salt. The ashes contain the silicates that are in the wood or bark of the tree, and all the materials necessary to form the wood of the plant, and must be applied to a plant when it can form wood.

MR. FIELD. In planting trees on the Quince stock there has been a great deal of difficulty found from the fact of the latter being planted beneath the ground and the former above it. In consequence of this the tree has to be thrust down to an unnatural depth and then a new layer is formed and then a strata which has a new office thrust upon it. We do not know how much or how little there is in the lower roots, but there often come cankerous and diseased matters. When the tree is dug up from the ground and thrust down into the nursery rows there is another strata formed, making a third.

I have often found in removing such trees after four years planting that the lower strata has entirely superseded the office of the others and the fungus has been destroyed. I have not known this until they have become diseased and of a dark instead of light color. At first they may get spongy showing a little white fungus on the tops of the stems, I found that such trees could be entirely restored by cutting off that lower strata, and I would advise this always in planting on the Quince stock.

THE PRESIDENT. That has been my custom for more than twenty years. I was among the earliest cultivators of the Pear on the Quince root. Many that came out had shanks of at least eighteen inches of the Quince. I do not know that I had ever heard of planting down below the surface until I practised it myself. I am under the apprehension and pretty well convinced that if the soil is well drained there may be several courses of healthy roots, the lower as well as the upper.

When I found them otherwise, it has generally been in a stiff clay, cold, uncongenial soil. Some thirty years ago I purchased a lot of Pear trees on the Quince root where the Stanton ferry now is, and there were then scarcely any buildings on the shore, but a few little shops, the rest was pasture land. I put up a Pear tree on the Quince root which had never rooted from the Pear stock. It is now twenty-eight years since I purchased it. I took it up about two years ago and found the roots perfectly good. I found the roots of this tree although not having rooted from the Pear stock as sound as when I purchased it.

DR. BOYNTON. I suppose if the leaves of trees bear the relation to them, that the lungs of animals do to those animals, the Quince would breathe better through its own lungs than through those of the Pear. It is my opinion that the Bartlett Pear would grow more healthy by itself than it would on a Quince stock. Some years ago I found no difficulty in getting the young roots of the Bartlett to strike roots almost as frequently as the weeping willow. I would ask if there was not other auxiliary means to induce early fruitfulness, besides Quince grafting.

MR. SCOTT. In order to graft the Pear on the Quince stock we departed entirely from the positions we had taken for the establishment of the Quince on the Pear. The Quince has as healthy a foliage as the Pear.

I can show at home trees bearing fruit of which the lungs are diseased. I say that the Bartlett foliage is the best agent we can provide for producing the finest and hardest fruit. The only objection in the world is that it does not make a perfect junction with the Quince.

PRUNING.

MR. LOOMIS introduced the subject of pruning. He offered a set of resolutions, recommending the society to adopt a particular plan, not that he wished the resolutions adopted, but that this might bring the subject before the meeting.

DR. WARDER. The resolutions express my views on the subject. I like the plan of pruning trees down instead of up. This is best especially in the western country. Some gentlemen express astonishment at this, such is the fact, when possible. I branch my trees on the ground in preference to any other place. One reason is that the trees get to work and acquire sap which has not been so far to travel. I call this my method not because I claim any originality in the matter, but merely because I adopted it. I prune in winter for wood and in summer for fruit. I invite my friend Mr. Boynton to ventilate some of his opinions on the subject.

MR. BOYNTON. I cannot say much about pruning in summer. When I have a small tree and see a number of spray I put the knife to it and the buds burst. If the tree is large enough to bear and fill itself with buds, I dislike to trim them off at all, for fear of throwing so much sap into my fruit as to burst it.

The discussion then closed, when Mr. Field offered several resolutions of thanks to different officers of the society for the faithful performance of their duties. The society then adjourned to meet again in Boston in 1862.

Fruit Catalogue

OF THE

AMERICAN POMOLOGICAL SOCIETY.

FOR GENERAL CULTIVATION.

APPLES.

American Sum. Pearmain,	Melon,
Autumn Bough,	Minister,
Baldwin,	Monmouth Pippin,
Benoni,	Porter,
Bullock's Pippin,	Primate,
Carolina June,	Rambo,
Danver's Winter Sweet,	Red Astrachan,
Early Harvest,	Rhode Island Greening,
Early Strawberry,	Roxbury Russett,
Fall Pippin,	Smith's Cider,
Fameuse,	Summer Rose,
Gravenstein,	Swaan,
Hawley,	Vandervere,
High Top Sweeting,	Wagener,
Hubbardston Nonesuch,	William's Favorite, (except
Jonathan,	for light soils,)
Lady Apple,	Wine Apple, or Hays,
Ladies' Sweet,	Winesap.
Large Yellow Bough,	

PEARS.

Ananas d'Ete,	Fulton,
Andrews,	Golden Beurre of Bilboa,
Bartlett,	Kingessing,
Belle Lucrative,	Howell,
Beurre d'Anjou,	Lawrence,
Beurre d'Arenberg,	Louise Bonne de Jersey,
Beurre Diel,	Madeline,
Beurre Bosc,	Manning's Elizabeth,
Beurre St. Nicholas,	Onondaga,
Beurre Clairgeau,	Osband's Summer,
Beurre, Giffard,	Paradise d'Automne,
Beurre Superfin,	Rostiezer,
Brandywine,	Seckel,
Bloodgood,	Sheldon,
Buffum,	St. Michael Archange,
Cabot,	Tyson,
Dearborn's Seedling,	Urbaniste,
Doyenne d'Ete,	Vicar of Winkfield,
Doyenne Boussock,	Winter Nelis,
Doyenne d'Alencon,	Uvedale's St. Germain, (for
Flemish Beauty,	baking).

FOR CULTIVATION ON QUINCE STOCKS.

PEARS.

Beurre Superfin,	Figue d'Alencon,
Beurre Hardy,	Glout Morceau,
Buffum,	Louise Bonne de Jersey,
Belle Lucrative,	Napoleon,
Belle Epine Dumas,	Nouveau Poiteau,
Beurre d'Amalis,	Rostiezer,
Beurre d'Anjou,	Soldat Laboureur,
Beurre Diel,	St. Michael Archange,
Beurre Langelier,	Urbaniste,
Catillac,	Uvedale's St. Germain,
Duchesse d'Angouleme,	(for baking).
Doyenne d'Alencon,	Vicar of Winkfield,
Easter Beurre,	White Doyenne.

PLUMS.

Bleeker's Gage,	Purple Favorite,
Coe's Golden Drop,	Prince's Yellow Gage,
Green Gage,	Purple Gage,
Jefferson,	Reine Claude de Bavay,
Lawrence's Favorite,	Smith's Orleans,
Lombard,	Washington,
Munroe,	McLaughlin.

CHERRIES.

Belle d'Orleans,	Governor Wood,
Belle Magnifique,	Elton,
Black Eagle,	Early Richmond, for cook'g
Black Tartarian,	Grafton, or Bigarreau,
Coe's Transparent,	Knight's Early Black,
Downer's Late,	May Duke,
Early Purple Guigne,	Reine Hortense.

APRICOTS.

Breda,	Large Early,	Moorpark.
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NECTARINES.

Downton,	Early Violet,	Elruge.
----------	---------------	---------

PEACHES.

Bergen's Yellow,	Early York, large,
Crawford's Early,	Hill's Chili,
Coolidge's Favorite,	Large White Cling,
Crawford's Late,	Madeleine de Courson,
Early York, serrated,	Teton de Venus,
George IV.,	Old Mixon Free,
Grosse Mignonne,	Old Mixon Cling.
Morris White,	

GRAPES.

UNDER GLASS.

Black Damascus,	Cannon Hall Muscat,
Black Hamburg,	Grizzly Frontignan,
Black Frontignan,	White Frontignan,
Black Prince,	White Muscat of Alexan'a,
Chasselas de Fontainebleau,	White Nice,
Red Chasselas,	West's St. Peter,
	Zinfudal.

OPEN CULTURE.

Catawba,	Delaware,
Concord,	Diana,
	Isabella.

RASPBERRIES.

Fastolf,	Orange,
Franconia,	Red Antwerp,
French,	Yellow Antwerp.
Knevet's Giant,	

STRAWBERRIES.

Boston Pine,	Large Early Scarlet.
Hovey's Seedling,	Hooker's Seedling,
Burr's New Pine,	Wilson's Seedling.
Longworth's Prolific,	

CURRENTS.

Black Naples,	White Dutch,
May's Victoria.	White Grape.
Red Dutch,	

GOOSEBERRIES.

Crown Bob,	Iron-Monger,
Early Sulphur,	Laurel,
Green Gage,	Red Champagne,
Green Walnut,	Warrington,
Houghton's Seedling,	Woodward's White Smith.

BLACKBERRIES.

Lawton's New Rochelle,	Dorchester Blackberry.
------------------------	------------------------

List of Fruits Promising Well.

[The new additions are printed in *Italics*.]

PEARS.

Adams,	Hosen Schenk,
Alpha,	Hull,
Bergen,	Jalousie de Fontenay
Beurre d'Allert,	Vendee,
Beurre Gris d'Hiver Nou-	Kirtland,
veau,	Limon,
Beurre Kennes,	Lodge, (of Penn.,)
Beurre Langlier,	Merriam,
Beurre Montgeron. or	Niles,
<i>Fred'k of Wurtemberg,</i>	Nouveau Poiteau,
Beurre Nantais,	Ott,
Chancellor,	<i>Omer Pacha,</i>
Collins,	Philadelphia,
Comte de Flanders,	<i>Poire des Nonnes,</i>
Comtesse d'Alost,	Pinneo, (Boston,)
Conseiller de la Cour,	Pius IX.,
Delices d'Hardenpont de	Pratt,
Belgique,	Rousselette d'Esperen,
Dix,	Steven's Genesee,
Duchesse d'Orleans,	Sterling,
Duchesse de Berry d'Ete,	Striped Madeline,
Emile d'Heyst,	Theodore Van Mons,
Epine Dumas,	<i>Uwehlad,</i>
Fondante de Charneuse,	Van Assene, (Assche,)
Fondante de Comice,	Walker,
Fondante de Malines,	Zepherine Gregoire.
Hinkle,	

APPLES.

Buckingham,	<i>Pomme Royal,</i>
Bonum,	<i>Dry r's Red,</i>
Canon, Pearmain,	<i>Raeles Jeannette,</i>
Early Joe,	Smoke House,
Fall Wine,	<i>Stansil,</i>
Fornwalder,	<i>Summer Queen,</i>
Genesee Chief,	<i>Summer Sweet Paradise,</i>
Jeffries,	<i>White Pippin,</i>
King of Tompkins County,	White Winter Permain,
Keswick Codlin,	Willow Twig,
Limber Twig,	Winter Sweet Paradise,
Maiden's Blush,	Winthrop Greening, or
Mother,	Lincoln Pippin,
	Willis Sweeting.

FOR PARTICULAR LOCALITIES.

Canada Red,	Northern Spy,
Æsopus Spitzenberg,	Yellow Bellflower,
Newtown Pippin,	Ribstone Pippin.

FOR GARDENS.....Garden Royal.

PLUMS.

Bradshaw,	Ives' Washington Seedling,
Duane's Purple,	Pond's Seedling,
Fellenberg,	River's Favorite,
General Hand,	St. Martin's Quetche,
German Prune,	White Damsen.

CHERRIES.

American Amber,	Hovey,
Bigarreau Monstreuse de	Rockport Bigarreau,
Mezel,	Kirtland's Mary,
Black Hawk,	Ohio Beauty.
Great Bigarreau of Down-	Walsh's Seedling.
ing.	
Napoleon Bigarreau, for Special Cultivation.	

PEACHES.

Chinese Cling,	Gorgos,
Columbia,	Susquehanna,
Carpenter's White Freestone.	
Heath Cling, for Particular Localities.	

RASPBERRIES.

American Red,	<i>Hornet,</i>
<i>Belle de Fontenay,</i>	Thunderer,
Cope,	Walker.
Catawissa,	

STRAWBERRIES.

Jenny Lind,	Scarlet Magnate,
Genesee,	Walker's Seedling,
Le Baron,	Triomphe de Gand.
McAvoy's Superior,	

CURRANTS.

Cherry,	Versailles,
Fertile de Pallau,	White Gondoin.
Imperial Yellow,	

GRAPES,

FOR OUT DOOR CULTURE.

Hartford Prolific,	Rebecca,
Logan,	Union Village.





Elater (Alaus) scabellatus



Aphanobius nitescens



Elater (Elaton) laus attenuatus



Elater (Elaton) laus fasciatus



Chalcophanes virgatus



Dicereon elongatum



Dicereon lurida



Chrysobothris virgata



Lygostes laevigatus



Postocelus bicolor

12

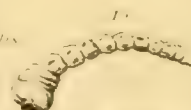


Eumecurus niger

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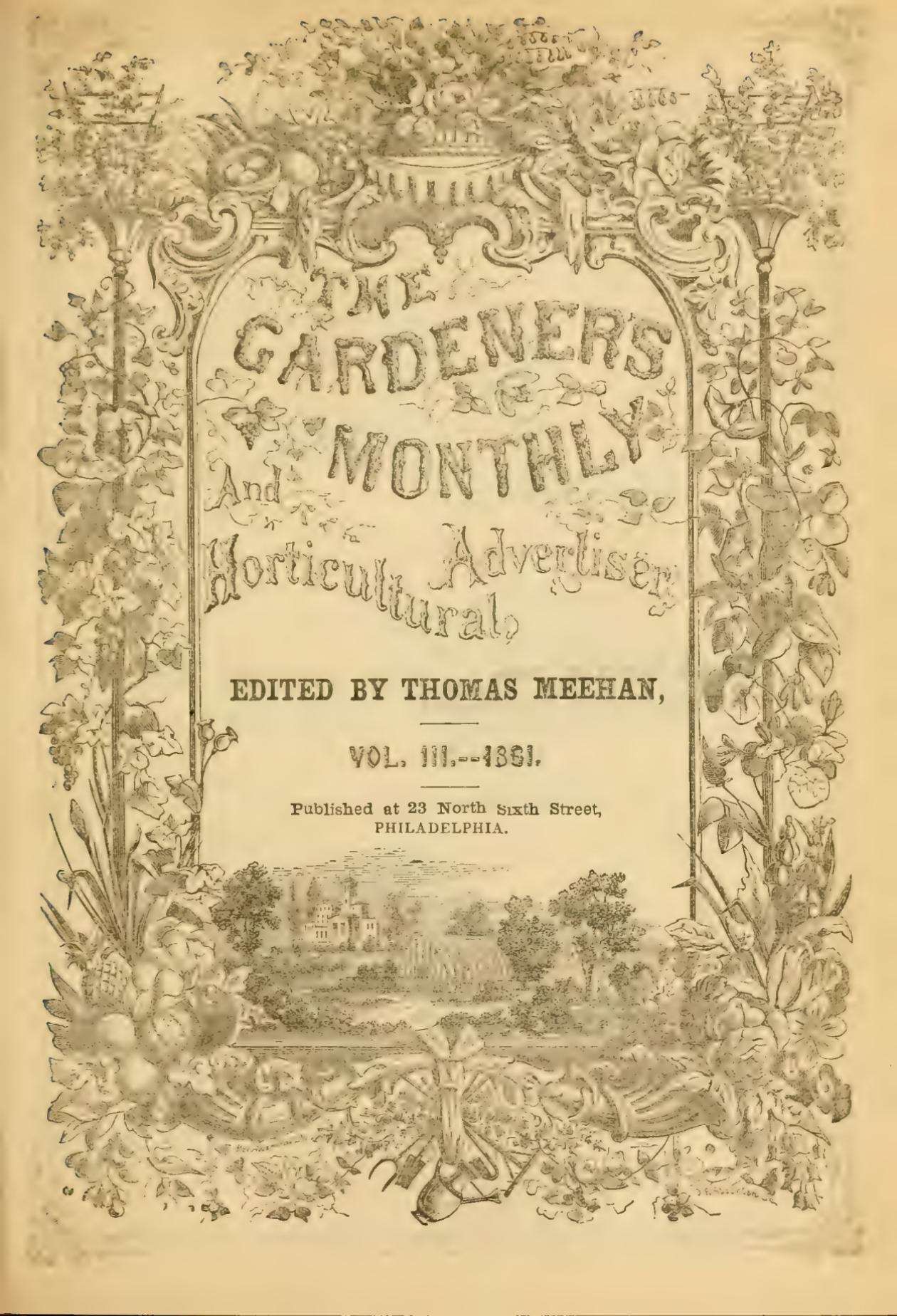
Eumecurus niger



Larva of an Elateridae



Larva of an Elateridae

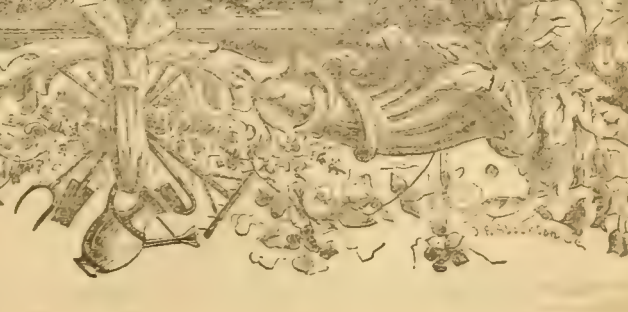



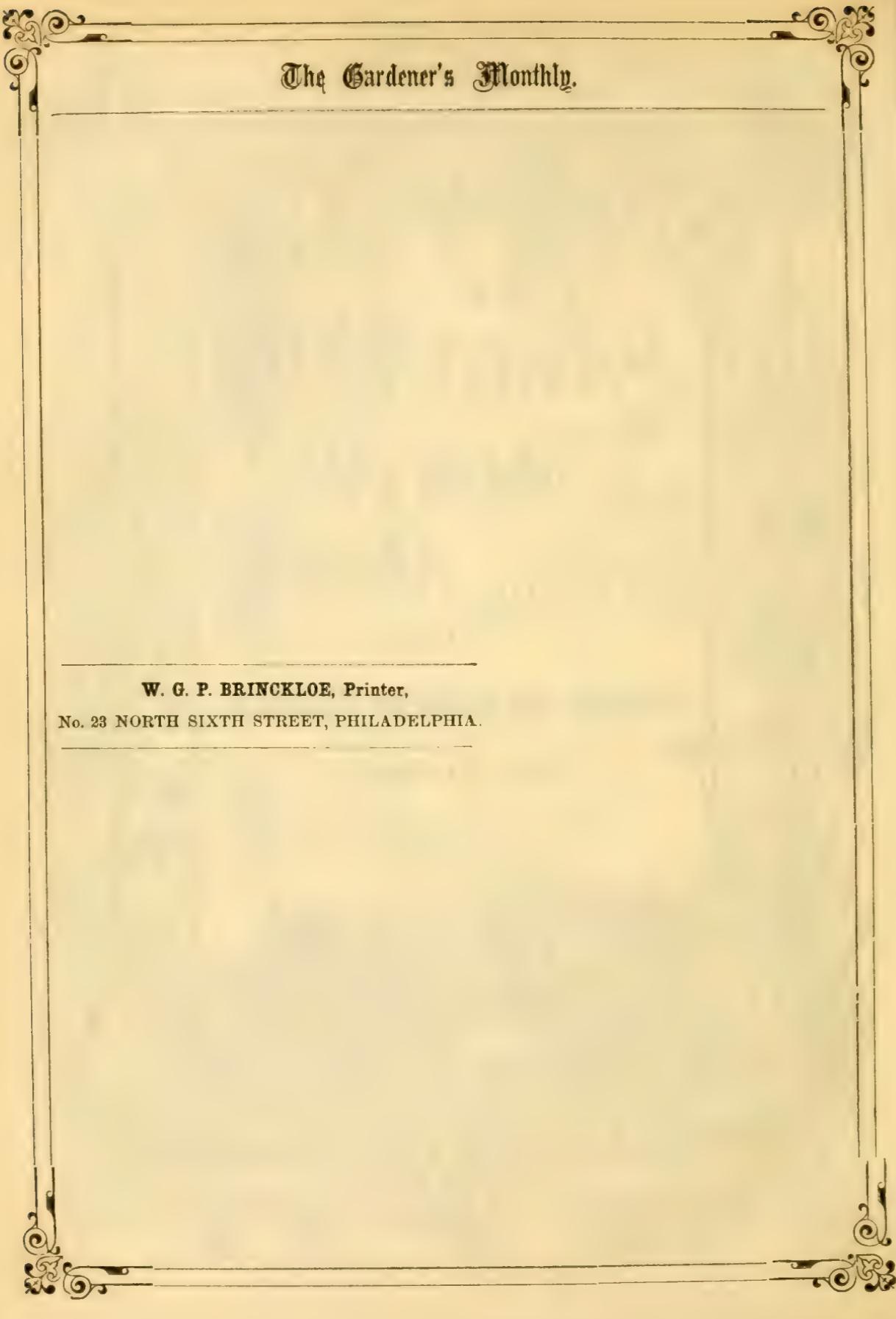
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HORTICULTURAL SOCIETIES

January—New Haven Hort. Soc., New Haven, Conn.; Maine Co. Terns' Soc., Society of Hamlin, Me.; Fruit-growers' Society of Eastern Pennsylvania; Entomological Convention; Meeting of the Ohio Pomological Society; Hints for Fruit-growers Societies, 42.

February—Yale Ag. Lectures, Lectures Horticultural Society, Massachusetts; Chicago Gardeners' Soc. of Ill.; Conn. Grape-growers' Convention, 19.

March—Fruit-growers' Society of Eastern Pennsylvania; Agricultural—do, do, 173.

May—Penny Vana Horticultural Society, Missouri; Fruit-growers' Association; American Pomological Society; St. Louis Vine and Fruit-growers' Association; Horticultural Society of Canada, 100.

June—Pennsylvania Hort. Soc., Brooklyn Hort. Soc., Connecticut Hort. Soc., Philadelphia Progressive Gardeners' Society, Kentucky Horticultural Society, 120.

July—Penny Vana Horticultural Society; Horticultural Society of Michigan; Massachusetts Horticultural Society; Susquehanna and Chemung Valley Horticultural Society, Bangor (Me.) Horticultural Society, 224.

August—Pennsylvania Horticultural Society; Fruit-growers' Society of Wisconsin, New York, 2, 6.

September—Pennsylvania Horticultural Society, American Institute Farmers' Club, Cincinnati Horticultural Society, 285.

October—Pennsylvania Horticultural Soc., Ill., 20.

November—Horticultural Convention at Lancaster, Pa.; Penny Vana Horticultural Society, Philadelphia; The Massachusetts Horticultural Society; The Pennsylvania Horticultural Society; Kentucky Live Stock Horticultural Society, 31.

December—Pennsylvania Horticultural Society, 17.

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THE GARDENER'S MONTHLY.

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THOMAS MEEHAN, EDITOR.

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VOL. III.—NO. 1.

Hints for January.

As we are commencing the year with a largely increased list of subscribers, it may be as well to again observe that we do not in these hints propose to give exact monthly directions for what should be done in the garden. Our subscribers are about equally distributed over the whole continent, and rules for work would thus manifestly be inapplicable to the largest portion of them. *Our object is to give general hints, principles and practices, that are little known or liable to be forgotten, and that may be useful to every reader in any part of the country.* Our friends have been pleased to express considerable interest for this department of our journal heretofore, which we shall endeavor still to sustain.



FLOWER GARDEN AND PLEASURE GROUND.

In the north, with the great body of vegetation still shrouded in snow and the usual habiliments of winter, little can be done in this department; but in the Southern States gardening operations will be about commencing actively. Pruning should be completed as soon as possible. Some judgment is required in pruning flowering shrubs, Roses, &c., although it is usual to act as if it were one of the most common-place operations. One of the most clumsy of the hands is commonly set with a shears, and he "goes through" the whole place, clipping off every thing indiscriminately. Distinction should be made between those flowering shrubs that make a vigorous growth, and those which grow weakly; and between those which flower on the old wood of last year, and those which flower on the new growth of next season, as the effect of pruning is to force a strong and vigorous growth. Those specimens that already grow too strong to flower well, should be

only lightly pruned; and, in the same individual, the weakest shoots should be cut in more severely than the stronger ones. Some things like the Mock Oranges, Lilacs and others, flower on the wood of last year—to prune these much now, therefore, destroys the flowering: while such as Altheas, which flower on the young wood, cannot be too severely cut in, looking to that operation alone. We give below a full list of the shrubs in most common cultivation, of the different classes.

Ornamental shrubs that flower chiefly from the wood of the preceding year: Snowy Mespilus, Dwarf Almond, the different kinds of Andromedas, Azalias, Kalmias, Rhododendrons, Calycanthus, Corchorus, Cornelian Cherry and the other Dogwoods; Philadelphuses, Deutzias, Mezereon, Leather wood, Fothergilla, Golden Bell, Hydrangeas, Itea Virginica, Jasmines, Privet, Upright Fly and Tartarian Honeysuckles, Pyrus japonica; the Missouri and other ornamental Currants; most of the early flowering Spiræas, Dwarf Pavias, Snow Berries, Guelder Rose, Wiegelia rosea, Persian and other Lilacs, Annual Roses.

Shrubs that flower from the present season's growth: Amorpha fruticosa, Ceanothus Americana, Bladder Senna, Coronillas, Burning Bushes, Genistas, Scotch Broom, Althæa; Hypericums, such as Kalmianum, prolificum, &c.; Green-fringe, Flowering Locusts; the Fall-flowering Spiræas, Tamarix, Vitex agniscastus, &c. These lists also embrace the most desirable of ornamental shrubs in cultivation, from which the amateur may select when the planting season arrives.

In pruning roses, the Fall-blooming kinds, which flower on the new growth, may be pruned as severely as we wish—in fact, the "harder" they are cut in the better. In this class are the Noisette, Bourbon, Tea, China, and Hybrid Perpetual, and Perpetual Moss. Without considerable experience it is difficult for the amateur to distinguish these classes; the best way to get over the difficulty is to obtain the catalogues of the principal rose-growers, in which each kind is usually classified. Amateurs should pay more attention to the scientific—if we may so term it—study of the rose, and its classification and general management; no class of flowers is more easily

understood, and no one affords so rich a fund of perpetual interest.

VEGETABLE GARDEN.

SOUTH of the Savannah River, most kinds of the hardier garden crops may be planted this month: Radishes, Peas, Cabbages, Turnips, Beets and Carrots, Spinage, Parsley, Lettuce, Onions, &c. North of this point, but little can be done but prepare for the next and following months. Manure, compost, poles, stakes, &c., will be had in readiness; tools ground, fixed and brightened; seeds of the best quality made into lists and even ordered, for it should not be forgotten that when the busy time comes, the seedsman is as much hurried as the rest of mankind, and holds a grateful feeling towards those, who, in addition to other commercial "favors," are considerate towards him.

This is one of the most trying periods of the year to cauliflowers in frames; if they have a lively bottom heat, and from the severity of the external atmosphere cannot have much air allowed them, they will be very likely to "button," as gardeners call it. No opportunity of admitting air safely should be lost. Cabbage and lettuce preserved in frames for planting out in Spring, should also have all the fresh air the weather will permit.

PLANTS AND PLANT HOUSES.

No one can fail to admire the innumerable beauties in the way of handsome flowers, that uncultivated nature everywhere scatters so abundantly around us. Beauty is the same wherever it exists,—in the parlor or drawing-room; in the greenhouse or conservatory; in the hut of poverty; in the "Barcan desert," or the most unfrequented and wildest spot.—No one we think can admire wild flowers more than the writer: he traverses many a mile in search of them, and if but one new feature in the fair face of Flora is discovered in each trip he feels well rewarded. But with all his faith in the immutable principles of beauty, and all the love amounting to a species of veneration he holds for beautiful wild flowers, he cannot agree with a very common view that they are equally deserving of cultivation with the collected treasures of foreign lands, or the improved beauties of our own.

To view a well filled conservatory, or well cultivated stock of plants in a tasteful greenhouse, excites at this season different sensations than even the most lovely prairie, or beautiful Alpine Flora ever does. We feel that choiceness is there, and the hand and power of man overcoming the obstacles and adverse circumstances of nature, is a never failing source of pleasure and delight. It is part of the nature of man to revolt at useless labor. Even the sternness of hunger, will scarcely compel a man to work unless some

useful object is accomplished. The late Stephen Girard, with all his eccentricities, was a very charitable man. No ones necessities went unrelieved.—But he had his own way of doing good. He held that no able-bodied man should eat, till he had first earned his meal, and so he seldom gave money but he would always give work. However that it might not be supposed that actual charity was not his object, he did not care to profit by the labor of the poor; but kept a pile of stones on the wharf, and applicants for relief were set to remove them first from one side of the wharf to the other, and back again, till the allotted time had expired. It is related that but a small moiety of those asking for and willing to work, would labor at this objectless and profitless task, preferring rather to take their chances for less certain, harder, or more laborious employment. It is precisely thus with the cultivation of wild flowers. It seems so profitless to dig up, remove a few hundred yards from the woods to our flower border, and weed, tie up, cultivate, and labor to effect what nature does for us just as well. That the idea will never become popular. Greenhouses, and choice flowers, and foreign luxuries in the floral line, will ever be the object of the Horticultural importunate, and we shall never regret our share in ministering to this feeling.

At this season particularly can we "sing" of the charms of this branch of our art. He who has no greenhouse or plant cabinet of some kind, is as we said in our last issue, a species of the human genus to be pitied. Australia, the Cape of Good Hope, China, the East Indies, South America, and the tropics of both hemispheres, are now in their glory, and for the next two months at least will afford us all the variety and interest we want.

The Cineraria, or Star flower as it is being popularly called, is about to flower now. Those kinds that grow naturally tall and lean are going out of fashion, kinds with good semi-circular heads, and dwarf habit of growth are the favorites. In saving seed select such plants as come nearest to these points for that purpose. Some very Dwarf ones have recently appeared in England that scarcely exceed one foot in height under very favorable conditions of growth. Calceolarias should be particularly kept near the glass. Auriculas, Polyanthus, and primroses and violets like a cool moist atmosphere. Heaths, Epacris, Correas, and delicate New Holland plants must be continually examined to ascertain whether their roots are in a healthy state of growth. Hyacinths in glasses should have the water changed about once a week, rain water or thawed snow is the best, and a few pieces of guano about the size of a pea helps considerably. *Correas* and *Coronillas*, are amongst the easiest of delicate ornamental plants to grow. *Amaryllis* and cape bulbs when grown well

are amongst the handsomest of plants. They are now about to grow, and consequently it is the time to re-pot them. Amongst the new flowers do not forget the merits of old ones, and particularly stock gillies and double Wall-flower. Old Fuchsias cut down make very strong and noble specimen plants when they shoot up again. For propagation old plants should now be forced a little, and the sprouts taken off and struck. Begonias many of them are commencing growth and may be re-potted, they do not do well in very large pots.

Communications.

SKETCHES of PHILADELPHIA BOTANISTS

(Concluded.)

BY L., HADDONFIELD, N. J.

VII.—MUHLENBERG.

THE student of the grasses will remember Dr. Henry Ernst Muhlenberg. This thorough classical and oriental scholar was born in Montgomery Co., Pa., in 1753, and was sent, at the age of ten years, with his two older brothers, to complete his general education, and study theology at Halle, in Prussia. He returned in 1770, and was ordained at the early age of seventeen, and became assistant to his father in the Lutheran Church at Philadelphia.

During the occupation of the city by the British, he commenced the study of botany in his retirement in the country, and attained to eminence in his favorite pursuit. He was elected a member of the American Philosophical Society, and soon after became a member of the leading associations of a similar character in Germany and the north of Europe, and enjoyed a correspondence with the leading scientific men of the day.

His chief publication—"Descriptio uberior graminum," published by Solomon W. Conrad in 1817, who himself became, in 1829, Professor of Botany in the University of Pennsylvania, and a highly popular lecturer on the science. S. W. Conrad deceased in Philadelphia in 1831, aged fifty-two years, leaving an example of serenity, and even cheerfulness, under the dispensations of Providence, precious in the recollection of many who both respected and loved him.

Dr. Muhlenberg was one of the chief contributors to the early volumes of the Transactions of the American Philosophical Society. His "Flora Lancasteriensis," and a number of papers on botany, theology, &c., remain in manuscript. His herbarium was purchased and presented to the American Philosophical Society by Zaccheus Collins, Dr. Wistar, Dr. James, and other friends of science.

In 1780 Dr. Muhlenberg accepted a call to Lancaster, where the remainder of his life was passed in the discharge of his pastoral duties, and where, in 1815, he closed a career marked by distinguished talent, piety, and usefulness at the age of sixty-three.

"Muhlenbergia," a genus of the Gramineæ, was happily named in honor of him who successfully brought the resources of German industry and patience to the study of the difficult subject of the grasses.

Our limited space forbids enlargement; and, with regret, we can but name our distinguished fellow-citizens, Dr. Darlington and Dr. Pickering; the former of whom has largely aided in popularizing botanical science, and has made us his debtors by his edition of the Correspondence of Collinson and Bartram, and kindred publications; the latter a devoted botanist and ethnologist, who, having accompanied the Wilkes' Exploring Expedition, gave to the world an interesting volume, the results of observations on the various races of mankind, a most valuable contribution to a study of great and growing interest.

Philadelphia, the favorite home of botany in olden time has not been left without able and enthusiastic admirers and students of "the amiable science" in the present day. A Kennedy, an Ennis, and a Coultas sustain the reputation of days gone by, and nowhere is a deeper and more intelligent interest felt and exhibited in the subject and its kindred horticulture, than among the cultivated citizens of Philadelphia.

This hurried notice of some of the worthy ones whom science "has delighted to honor" has already been extended beyond my original intent. I well remember my boyish pleasure in observing that many eminent botanists had been commemorated in genera bearing their names, while I longed to learn something of their lives and fortunes, and have been instigated to compile these simple sketches from the belief that they may be more interesting to some inquirers seeking, as I did, for such information.

[We are sorry to come to the end of these interesting sketches, and we are sure all our young readers share our regrets. We hope our scientific friends of other cities will send us notes of the many other honored names in American botanical history.—Elliot, Clayton, Pursh, Bigelow, Schweinitz, Baldwin, &c. The list is a long way from being exhausted.—ED.]

REMEDY FOR THE PEACH-BORER.

BY J. VAN BUREN, CLARKSVILLE, GA.

As frequent complaints are made of the depredations of the peach-tree borer, and a great number of

remedies, most of which are worthless, and others troublesome or impracticable, are from time to time published, will you, through the medium of your serial, publish the following, which, we have little doubt, will prove effectual, as well, be of such easy application as to suit the laziest subscriber on your list.

Take about a half pint of common salt, and sew it up in a small bag of strong cotton cloth, such as common Osnaburg will answer all purposes; tie this in the fork of the tree, where let it remain until the salt is dissolved by the rains that fall, which will be in the course of two years, and the work is done.

The brine that runs down the trunk of the trees will kill both worms and eggs as they are deposited; besides, it proves a benefit to the tree. Should there have accumulated a hardening of gum at the surface of the ground, as is sometimes the case, it should be removed so that the solution may reach the worms. It is equally as applicable for the apple-tree borer and aphids at the roots.

A CHAPTER OF HINTS.

BY C.

DR. HAYES' article quite satisfies me. Now let us both unite in endeavoring to give to your readers every little information we meet with, in our readings, intercourse with others, &c.; and as some knowledge with chemistry will enable us to tell others the value of many of the now various animal and mineral manures, and how much would be injurious, and how much beneficial, let us do it in as plain English as possible. If Mr. Bright has found watering his grape-vines with tartrates give them more vigor, and brighter green, and finer fruit, no doubt but it is a useful fact to be pursued by others.

Dr. Uhler suggested and tried aloes in solution; tion and glue in his spent-tan beds. Useful facts,—let us try them; and so on throughout your magazine in the editorials and monthly work, which are full of suggestions and experimental knowledge. Let us receive all these things and experiment on them, giving you the results. For my part, the more I experimentally and practically study horticulture in all its branches, the more I find the want of these little facts,—sometimes only "hints,"—and if we store them up for use, we shall by-and-by reap fruit. There is no use or good in a chemical disputation. What are theories or hypotheses, or the reasoning of a laboratory to the gardener or fruit-grower? Liebig, at one time wrote, he would soon be able to carry in his waistcoat-pocket manure for an acre of ground. Many years have passed, and yet he has not reduced it to the bushel. Facts ever so small and simple may be valuable, and I would call on you and your many correspondents to

fill some of your pages with them. Much may be conveyed in a few lines, and may lead to valuable results. We have many things to combat,—adverse soil, drought and heat, moisture and frost, insects and fungi. Every practicing gardener has met with all these, and no doubt wars against them some way. Let him keep notes of results, and a vast deal of information will be acquired. In reading somewhere, a few days back, I met a suggestion, that if plum trees were planted on an eminence, say a suitable hill, it would escape the curculio. If I do not mistake, the writer said he had tried it, and the result was favorable. We know that many of these small insects will not fly high, and that low atmospheres are more attractive to their habits. The cabbage-fly will not infest the young plant, if seed be set in boxes and raised a few inches above the level. I tried watering my young cabbage this year with a solution of aloes in water, and found the seedlings I had used it in nearly free, while those in the neighborhood were infested. I also steeped the seed in the solution; but I found that a couple of waterings saved my plants. To try this is not expensive, and, if useful in lessening the pest, is valuable. I have no doubt but many solutions of salts and gums, if tried, might render the leaves disagreeable to these parasites. We must keep up a perpetual war against them, or we can have no crops. Has Dr. Uhler reported to you his experiment of watering his plum trees with aloes-water earlier this season than last. It would interest to know if he has. M. Mercieul, in a letter to the French Academy of Science, gives an account of a new mode of applying sulphur to diseased vines. He selected a number of last year's diseased plants, which he planted in two groups. On August 16th last, when indications of the oidium appeared, he dug up the earth round the roots and stems of one group, and laid round the roots and stems a handful of flour of sulphur. On September 20th the vines thus treated were quite free from disease, and in excellent condition; while the other group, left to itself, was in a wretched state through the rapid progress of the disease. Mr. M. is thus led to conclude that the malady of the vine is a general affection, and must consequently require general treatment.

If you think such little notices as these worth your sending forth, and that they will be any way useful to an end, I will, now and then, as I meet them, send them. Many diseases appearing in the leaves of plants may be a general affection. Some of our finest roses, that mildew in all situations and under all weather, may be entirely caused by a general affection, and not the direct action of season on the externals, though it is then it becomes apparent.

[We had already noted the observations of M.

Mercieul, and they will be found commented on in another portion of our paper. The hints and facts C. alludes to are just the matter we like to get.—Ed.]

ENTOMOLOGICAL ESSAY.

Read before the Fruit-Growers' Association of Eastern Pennsylvania at its Meeting in West Chester, on the 13th day of June, 1860.

BY S. S. RATHVON, ENTOMOLOGIST OF THE ASSOCIATION.

(Continued from page 329.)

INJURIOUS INSECTS.

The catalogue of tree-boring *Colcopterous* insects, however, does not terminate here. There is a large family of *Serri-cornians* or "saw-horned" beetles, that are similar in their habits in their larva state to the *Capricorns*, and quite as injurious also. The larva of these insects are easily distinguishable from those of the *Capricorns* by the anterior portion of the body of some of them being much *produced*, giving them something the appearance of a tadpole, and others being cylindrical.

12th. *Chrysobothris femoralis*, Fab. Or "Thick-legged Apple-tree borer." Plate II, fig. 8. Length, about half an inch; color, greenish black, with a brassy polish; two very distinct metallic spots on each wing-cover; eyes prominent, head broad, and antennæ short; the thighs of the hind legs are somewhat thickened and dilated. This insect makes its appearance from the end of May until the middle or end of July, and in addition to the apple tree, it also infests the peach tree and the white oak, the latter of which is doubtless its native tree, and to which its operations perhaps would have been confined had not other circumstances invited it to our orchards and domestic trees.

13th. *Dicerea divaricata*, Say, or "Wild Cherry-tree borer." Plate II, fig. 6. Length, seven to nine-tenths of an inch; color coppery; thickly covered with small punctures; wing-covers taper much behind and *divaricate* or stand a little apart at the ends; thorax marked with fine elevated lines. These insects are found in and during the months of June, July and August, upon the wild cherry, also upon the limbs of the peach and domestic cherry trees, and their grubs may be found where the gum exudes from the limbs of those trees, among others of similar habits.

14th. *Dicerea lurida*, Fab., or "Hickory-tree borer." Plate II, fig. 7. Length about the same as *D. divaricata*; color, lurid or dull brassy, bright coppery beneath; thickly punctured all over; impressed lines and spots on the wing-covers. This insect is one of several borers that infest the hickory tree, and it is only introduced here because it is so nearly allied to the former insect noticed, and there can scarcely be a doubt that in proportion as its natural habitation and its natural enemies are destroyed, it will have recourse to domestic trees.

15th. *Calcophora virginica*, Drury. A "Pine-tree Borer." Plate II, fig. 5. Length, from one inch to an inch and a quarter; form oblong; color, brassy or coppery, but sometimes with hardly any metallic reflection; the upper side of the body roughly punctured and indented; on the thorax are three elevated polished lines; on the wing-covers are also irregular polished lines; appears in May and June. As our pine forests fall before the axe of the lumberman and the agriculturist, this insect must be driven in towards the borders of domestic cultivation, and although comparatively a stranger now, yet, from its habits, and from its analogy of form and structure to the one that already infests the apple tree, there are those now living who may become acquainted with it in a manner by no means agreeable. This is our largest American species.

16th. *Buprestis faciatus*, Fab. Plate II, fig. 9. Length, half an inch; color, deep metallic green; a yellow or brassy band and spot on each of the wing-covers. This insect I have received from Maine, Maryland and Missouri, and I have also found it in Pennsylvania. It is a beautiful insect, and probably has a wide distribution. Not much of its habits is specifically known to me, any more than that it is a wood borer. I have captured it on apple trees in proximity to the forest, in York county, opposite Marietta. From its general appearance, in comparison with the foregoing *Buprestans*, we may infer its character. The foregoing *Serricornians* belong to the old Linnean genus *Buprestes*, and are therefore called *Buprestidæ* to distinguish them from the *Elateridæ* which are allied to them in general form and structure as well as in their habits. These latter are known under different common names in different localities; they are best known in some places as the "Click-beetle," in others, as "Snapping-beetle" or "Spring-beetles" or "Skip-Jacks"—as in England, or "Schnell-käfer"—as in Germany; I have also heard the name of "hammer-head" applied to them. The larva of these beetles differ much in shape from the *Buprestans*, being long and cylindrical, with a hard, smooth yellowish skin, bearing some resemblance to our meal worm. Some of these larva are wood borers, but a large number of them live upon the roots of herbaceous plants.

17th. *Alaus oculatus*, Lin. "Big-eyed Spring-beetle." Plate II. Fig. 1. Length, from an inch and a quarter to an inch and three-quarters; color, black, and covered with minute whitish spots or dots, giving the insect a finely-speckled appearance; the thorax is about one-third the length of the body, and has two large velvety black spots, with white margins or rings around them,—something like owls' eyes,—from whence the name *oculatus*; found on trees and fences in June and July. The larva is a yellowish grub, sometimes measuring two inches in length, and proportionately broader and flatter than others of the same family; the caudal segment terminating with two sharp-pointed warts. See Fig. 14. This is the largest species of these Spring-beetles known in this country, the larva of which bores into different kinds of trees; and, as the insect is becoming more common among us than formerly, we may infer that our fruit trees will not be long exempt from its operations. Some of the European Elaters are known to remain in the larva state five years; and, although I cannot tell how long the one under consideration remains so, yet, from analogous reasoning, we may suppose that it does not differ materially from the former. Dr. Harris and others have found it in old apple trees, and I have found it in an old locust tree.

18th. *Cratonychus brevicollis*, Hbst. "Brown Click Beetle." Plate II. Fig. 4. Length, from three-eighths to half an inch; color, pale brown; the larva are cylindrical and smooth, approximating in form to the "meal-worm." This insect is quite common, and I have very frequently found it and its larva under the bark of old and decaying stumps and logs, without regard to the particular kind. As the mature insect is also frequently found upon fruit trees, it is not at all unlikely it may have been bred in some decayed parts of the tree, if not in the living. I am, however, inclined to the opinion that the whole family of Elaters are partial to dead wood.

19th. *Ludius antennatus*, Say. "Large-winged Click Beetle." Plate II. Fig. 3. Length, from seven-eighths to one inch; color, dark brown; wing-covers, tapering, from the base to the extremity, to a point, which are sometimes black. Rather rare, and only found in the most secluded regions yet. I obtained them from under the bark of oak trees, and this individual is only introduced here as being nearly allied to the immediately foregoing one.

20th. *Aphanobius infuscatus*, Germ. *A. sordidus* of Melsheimer. "Pale-Brown Spring Beetle." Plate II. Fig. 2. Length, one inch and a quarter; color, rusty brown; covered all over the upper side with minute hairs. This insect is, perhaps, more frequently found north of us than in Pennsylvania. I have merely introduced it here from its resemblance to Fig. 3, and in order to familiarize the reader with certain insect forms by which he may immediately know whether they are friends or enemies. Among the serricornians he will observe there are two general forms of the larva, differing more or less, according to family and genus. Fig. 13 of Plate II. represents the *Buprestidae*, but some of them have the anterior segments more developed, and the body not so long. Fig. 14 represents the *Elaterridae*, but some of them are shorter and thicker, and others longer and more cylindrical. These insects may be destroyed by the same means that I have suggested for the destruction of the capricorn beetles. But I have very little confidence in any other remedies than those found in a personal inspection of trees and plants, and a destruction by manual means of those insects we know to be injurious, or leaving them to the tender mercies of the birds, and bats, and moles, and skunks, who, although indiscriminate, are still the best cure, on the score of prevention. There is a family of small cylindrical beetles, which bore diametrically into the limbs and bodies of forest trees, and some of them also infest the pear and the apple trees, confining themselves, however, mainly to the smaller branches. I can only notice two or three species of them at this time.

21st. *Bostrichus sphericollis*, Germ. "Blight Beetle." Plate II. Fig. 11. dorsal and lateral view. Length, the eighth of an inch; color, brown; roughly punctured, especially on the thorax, which is very bulging in front, and the head drawn under. This insect is by no means a rare one, and has a wide distribution; for, in addition to those which were obtained in this locality, I received a proportionately large number of them in collections from California and Missouri. A writer in the *Prairie Farmer* describes an allied species (*B. bicaudatus*, Say) as very injurious to the apple trees in Illinois. They form a burrow in the heart of the bearing twigs, entering at the axil of a fruit-spur or bud, and bore downwards. Although this species is not yet very common here, yet there it is represented as being very abundant. Mr. Say found them rather rare twenty-five years ago about the mouth of the Ohio River.

23d. *Tomicus pyri*, Peek. Or, "Pear-twig Borer." Plate II. Fig. 12. dorsal and lateral view. Length, about one-tenth of an inch; color, light brown, sometimes a deep brown; thorax, short and very convex; the wing-covers are minutely punctured in rows, and slope off suddenly and obliquely behind. This insect is similar in its form and its habits to the one last mentioned, and in a similar manner attacks the pear tree. It is recommended to examine apple and pear trees daily during the month of June, and where any

blight takes place from these insects, the twigs should be cut off a little distance below the blight and burned. The leaves wilt and change their color on the infected branches, and may readily be seen, and as the insects are so small, it would be difficult to destroy them by any other means. The *Bostrichans* have, in times past, been exceedingly destructive in Europe—large districts of forest having been laid waste by them, and consequently their natural organization and habits comprise an element of destruction, that only requires time and circumstances to develope.

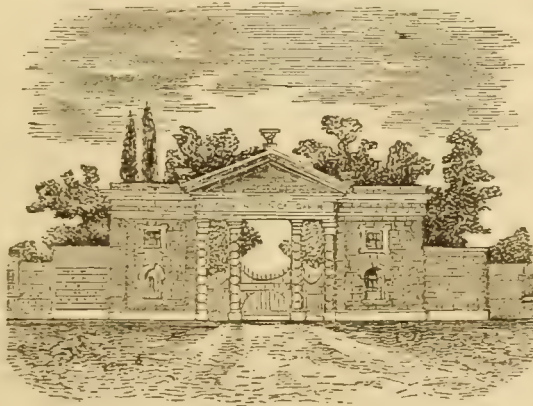
22d. *Bostrichus bicornis*, Say, "Horned Blight-beetle." Plate II, fig. 10, dorsal and lateral view. Length, a quarter of an inch; form, cylindrical; color, dark brown or nearly black; thorax bulging in front, and head very much sunk, hardly visible from the top; two short spines or horns projecting from the front of the thorax, whence its specific name. This is also a wood-boring insect in its larva state, and is injurious to oak and walnut trees. During warm days in June and July they are very active, and on the wing all day; flying also into houses through open windows where there is a light in the evening. Like the former species named, they are liable to attack fruit trees, and it is advocated by some that these insects and allied species are the cause of the "yellows" in peach trees; but I do not think this is to be inferred from having once found them in such trees. The yellows is a disease in the peach tree, which it is exceedingly difficult to identify with the presence of insects, as a superinducing cause, although various kinds of insects may often be found in them. In my opinion, diseased trees are sought by insects as the most favorable to their purpose, on account of the feeble organic action of such trees.

ST. LOUIS BOTANICAL GARDEN.

BY K., ROXBOROUGH, PA.

Having recently visited St. Louis on business, I seized a few leisure moments to drive out to this establishment, which owes its existence to the munificence and fondness for scientific pursuits of Henry Shaw, Esq., of that city.

Being provided with a note from Mr. Shaw to the superintendent, I met with much attention, and was afforded every facility for examining the different departments. The garden is situated about three miles from the centre of the city, in a beautiful part of the country. It contains in all about two hundred acres, a considerable portion of which is already improved. The entrance to the grounds is through a massive and tasteful gateway, built of a gray stone; a drawing of which I inclose.



A large portion of the grounds are already enclosed with a solid wall of the same kind of stone as that in the gateway; where it borders on the road it is surmounted with an iron railing. The first enclosure or department that you enter is the botanic garden; it contains about ten acres, and is already very neatly laid out with fine broad walks, most substantially constructed and bedded in stone, and well supplied with surface drains. Here it is intended to keep specimens of indigenous and hardy exotic herbaceous plants and shrubs, classified according to the natural system.

On one side of this enclosure is a fine building, about 40 X 75 feet, intended as a museum, library and lecture-room; it is of pressed brick, faced with marble, and is very neat and chaste. You enter the building through a noble doorway, most elaborately ornamented with marble, and find yourself in the museum, which occupies the greater part of the principal floor of the building. The ceiling of this

room is most artistically and appropriately decorated with frescoes of oriental plants, in their natural colors and all of them in their foliage and flowers, not only in the highest degree beautiful, but also botanically correct. Among them I noticed the banana, dracaenas, palms, marantas, cacti, and even our own gorgeous helianthus or sun-flower. The floor of the building is paved with encaustic tiles, and light iron galleries encircle the walls so as to afford access to the upper cases of specimens. Immediately under the museum, in a kind of basement, although entirely above ground, is the library in which is already placed the magnificent herbarium recently purchased by Mr. Shaw, of the heirs of the late Prof. Bernardi, of Erfurt, Germany. It contains twenty thousand species and one hundred thousand specimens! An excellent German botanist is now engaged in re-arranging it.

Adjoining the botanic garden on the opposite side to the museum and library are the green and hot-houses, pits and frames. The former are erected in the most substantial manner; those already completed are about 150 feet long and divided into four compartments, viz: dry stove, moist stove, intermediate and cold greenhouse; they are already filled with a choice collection. The roof of this range of houses is on the ridge and furrow principle, but at an inclination of nearly 45 degrees, being a *lean to* against a back wall. The frames and pits are enclosed with a high wall, which, at the same time shelters and hides them. The pits, and hot and green-houses are heated with hot water, and are provided with *double* front or upright sash. In the moist-stove the hot water pipes are provided with saddle-shaped tin pans to supply evaporation. Immediately in the rear of the plant houses is a range of neat lodging rooms for the men employed in the establishment.

Adjoining the botanic garden on the left of the library or museum is the large enclosure which is to be devoted to an experimental fruit garden, specimen orchard, or fruticetum, pinetum and arboretum; this department will be in time the most useful and interesting, and the founder has devoted to it some 150 acres, a considerable portion of which is already planted; one part of it as a maze or labyrinth; another, as a vineyard with many of the vines trained on trellisses.

Mr. Shaw is ably assisted in this and the other departments by the head gardener, Mr. James C. Smith. I omitted to state that the soil appears to be well adapted to the purpose, having been heavily manured and well trenched; everything that has been done here appears to be *thoroughly* done; in short, the entire establishment, even in its present unfinished state, reflects the greatest credit on the

noble-hearted founder and his able assistants. I am glad to find the good work so auspiciously begun, and hope this example will be followed until not only our large cities but even our country villages will each have its park and botanic garden.

BOTANICAL KNOWLEDGE IN THE NURSERY BUSINESS.

BY ORCHIS.

For the love of science, Mr. Editor, as well as of good taste, please allow an unpretending votary of Botany the liberty of calling the attention of nurserymen to a fact that greatly needs reforming.

The unpardonable faults almost daily committed by the *trade* in compiling their catalogues, has been for a long time to me a source of much astonishment, that a class of business men proverbial for intelligence and progression, should so overlook the most important, if not the primary step in the ornamental department of their business. Why is it the case that scarcely an exception out of the large quantity of catalogues annually sent out should be so deficient in this particular? The answer is plainly to be seen—for the purpose of avoiding trouble on the part of the compilers; their lists, together with the misnomers are accurately copied from their exchanges, thus entailing the errors so frequently seen; when they could so easily be avoided by a slight knowledge of Botany; or even searching personally from the works of the authorities on the subject.

The young botanist has to encounter a host of difficulties before attaining perfection, or indeed a mediocre of the requisite knowledge of the science; but instead of discouraging, it should be an additional stimulus to urge him on. He will have to brave the ridicule of the ignorant, and overcome the difficulty in understanding as well as pronouncing the names and terms used. It will also require a diligent application to the proper classification of specimens into genera and orders, but after overcoming the first obstructions, he will be surprised how easy the task to become proficient, and with what zeal he will enter upon the practical part of the study, which embraces the delightful rambles through the woods, along the shaded streams, and in "special localities;" none but a naturalist can appreciate the pleasure. During his daily walks, whether on business, or in pursuit of pleasure, each tree and plant are as old acquaintances to him; alike the gaudy flower and the homely weed he sees beauties in them all, and knowing each, combines to form one grand harmonious whole, and shows the vast conception of the Great Supreme.

The botanist's love for the science ends but with life itself; and when in the "sear and yellow leaf" the recollection of the manifold pleasures enjoyed

in the pursuit, enables him fully to appreciate the exquisite lines of Sprague—

"I breathe the summer air!
I wander in the woodland paths once more!
Again the copse, the dell, the meadow, wear
The loveliness of yore."

[The last paragraph of our correspondent's communication is worthy of being reflected on by *all who expect to grow old*. A love of the natural sciences, entered into when young, and pursued with enthusiasm at the meridian of life, affords a source of remarkable enjoyments at the period of the decline of our existence. The hope of leisure to enjoy life,—to retire from active business when we grow towards old age, is the dream of every youthful soldier in the battle of commercial strife; most often, too often, ending only in a dream; for the active mind finding ennui rebels at this violence to its nature, and it is an every day occurrence to find men who have "retired," returning again to active life, sick of "nothing to do."

It seems a wise provision of nature, that all her processes should never be known; she has always something left to be discovered, and in the pursuit of this knowledge the longest life is insufficient to terminate its hopes of success. "I have been fifty years a botanist," recently said Dr. Lindley, "and now feel that I am but on the threshold of the science." The majority of scientific men live to a ripe old age— hale and vigorous to the last—happy in themselves and at peace with all the world.]

INTRODUCTION OF THE LOMBARDY: POPLAR INTO AMERICA.

BY COL. R. CARR.

I have the pleasure of responding to your inquiry relative to the introduction of the Lombardy Poplar, and am happy to have it in my power to give you the desired information.

Soon after the close of the American Revolution, (in 1783), Mr. William Hamilton, of the *Woodlands*, near Philadelphia, (now Woodlands Cemetery), visited England and France, and on his return, brought with him a large collection of *hothouse* and *greenhouse* plants, and also a variety of trees and ornamental shrubs, not then perhaps in this country. My uncle, Mr. William Bartram, who saw the boxes unpacked, informed me that the *Lombardy Poplar* was one of the trees, and that he then believed it was the first brought to this country. I believe he brought the *Salisburia adiantifolia*, and the European Sycamore Maple (*Acer pseudo-platanus*), at the same time. He afterwards received the *Ailantus*, with many other exotics. And, indeed, until his death (in 1812), very frequently received boxes of rare plants from his friends in Europe and America.

His extensive hothouses and greenhouses were filled with the rarest and finest plants, and his grounds were the best laid out and finest in the country.

Mr. H. was a good botanist and passionately fond of flowers; he always kept the best gardeners that could be procured. Lyons and Pursh were for some time with him, and the elder Michaux supplied him with American trees.

I will add an anecdote of him, related to me by Mr. Bartram, who was a witness of the scene:—

About the year 1800, (or perhaps earlier,) Mr. H. had received the first plants of the *double white Camellia*, and one fine flower was just expanded. Mr. H. had a number of friends, Mr. Merry, Dr. Park, and other eminent gentlemen, to dine with him, and had directed his gardener to place the *camellia* on the centre of the dinner-table when dinner was ready. Conversing with Mr. Bartram about some plants just received from Dr. Muhlenberg, of Lancaster, he requested Mr. B. to go with him to the greenhouse to look at them. On their way there they met Mrs. M——, a lady who was very intimate with the family, and a particular favorite with Mr. H.—when lo, and behold, in her hand she held the flower of the *camellia*, (which was the only one open), and approaching Mr. H. she laughingly observed, "oh! Mr. H. I found this most beautiful flower in your greenhouse and took the liberty of cutting it."* Mr. H. stopped, horrified; and lifting his hands, stamped on the ground, and exclaimed in great anger—"By heavens! Madam, I would sooner have given you fifty guineas!" However, the gardener contrived to attach the flower to the plant with a little wire, so as to have it exhibited on the dinner-table.

I would add some other notices, but am interrupted, and will conclude with the remark that I am much pleased with your remarks on the subject of the street trees, and the impolicy of waging war with the trees instead of destroying the insects.

[We hope our good friend will often favor the *Gardeners' Monthly* with such fragments of our earlier horticultural history as may occur to him. As the last living representative of the great Bartram family of botanists, and perhaps the oldest American horticulturist now alive, he could tell us much that will otherwise be perplexing to our posterity.—ED.]

*This is a "liberty" which has always been taken by some ladies.

CRITIQUE ON THE DECEMBER NUMBER.

BY WALTER ELDER, PHILA.

THE remarks of J. N. Jones, upon Mildew, are correct and just to the point; the subject has been stoutly discussed in the Society of Progressive Gardeners, of this city, and the views of Mr. Jones have triumphed over all others; and, as the Society is to

publish its yearly discussions in January, in cheap book-form, it will do Mr. Jones good to procure a copy at twenty-five cents; and there he will see his remarks fully confirmed.

E. A. Riehl is also correct about heavy dews upon grape vines, they cause mildew and rot, whereas dry air and sunshine prevent both, and arrest their destructive doings even after they have commenced their ravages.

Your remarks upon "Surface-manuring," are as airy as that upon the "Digging-fork." A child may believe in surface-manuring because his mother spreads butter outside his piece, but when grandma tastes the slice and digs in the melting butter, as soon as he tastes that, he goes in for mixing the manures with the soils; tell him that his mother's piece becomes like grandma's by mastication before he swallows it, and he is fully converted.

One of my pupils was so much affected by your digging-fork story, that he did not want to use a spade any more; so I gave him, and another of his age, a tree apiece to plant, he with the digging-fork, and the other with a spade; the latter soon had his hole dug and tree planted. Says I, "Johnny, what are you doing?" Says he, "this fork does not lift the dirt out of the hole, and Tom wont lend me his spade." Says I, "do you not see the folly of throwing away the spade?" The young tulip at once gave in, with this exclamation: "I thought that the editor knew more than other folks, and it was all true what they said, but now I wont believe him."

Moral.—There are bounds to all things. *Editors beware! as you wield a mighty influence upon untutored minds.*

[ADDITIONAL STORY BY THE EDITOR.—Once upon a time, a certain gentleman had a gardener named Johnny, who always prided himself on having every thing particularly early and especially before any of his brethren, and one day he said to his employer,—"Sir, I will promise you a mess of ripe strawberries for desert on Christmas day;" whereat, Johnny's employer was exceedingly glad; and a large party of friends were gathered together to enjoy the Christmas feast. True to his promise, Johnny's strawberries, amounting to six specimens, duly ripened, were gathered and sent in. The employer was mortified. With twenty persons at the table, no one would touch a berry through consideration of respect for his neighbor, and none were eaten.

Anticipating praise, the next day Johnny met his employer with a smiling face, but the gentleman said nothing. This did not satisfy him, so he asked for the praise—"how, Sir, did you like the strawberries I sent in yesterday?" "Why, John, the strawberries were very well, but don't send in any more until there is at least a taste all round.

Two weeks afterwards the employer wondering why no more strawberries came, went to the forcing house, and lo! there were strawberries lying rotting around in every direction. "John," says he, "why don't you send in these strawberries?" "Did you not tell me," was Johnny's answer, "not to send in any more strawberries till there was plenty all round?" Johnny's "untutored" answer caused his dismissal.

Additional moral by the Editor.—*Some "untutored" people can't see the difference between singing and splitting their throats.]*

A NEW THEORY OF FRUIT FORCING.

BY A MASSACHUSETTS GARDENER.

SOME time last year I read your views in the *Monthly*, on the importance of direct sunlight on plants, which, though I have been many years in the business, I had never seen so presented to me before. I have always known that we could never get too much light, of course, as every real gardener does; but that the positive sunlight was so essential as you thought, I did not suppose. I have, however, Mr. Editor, given your views a fair testing, and am now convinced you are right, and am prepared to argue that every minute of direct sunlight, from sunrise to sunset, is a positive gain to the gardener. I arrived at my opinions by taking two plants, in everything alike, and after putting them at equal distances from the glass, let one have all the sunlight it could get, and the other all the light it could have without the sunlight, and it is really astonishing to see the difference in the sunlighted one.

But I want to say, Mr. Editor, something that you have not thought of, and I have thought it is only fair, as you wrote the first idea to set me thinking of it, that I should return the favor, if you should think it one, to offer it to you for publication.

You, and all my brother gardeners, who have had any experience in forcing, know how difficult it is to get Peaches, Apricots, Plums, Nectarines and Cherries to set their fruit. Cherries in particular are very hard. Hundreds of flowers open for every fruit that is set. I have often thought that I saw into the whole secret: not enough air perhaps, or too much; too high or too low a temperature; too much or too little water; but yet, for all, when I have been the most careful to profit by what I thought I learned the season before, I have often had no better luck.

Now, why don't these things set regularly and well? I will tell you Sir, what I think it is, and where is the fault. I have never found much good result in keeping up a high night temperature, though I think, if I have read your magazine right, you do not agree with this. Whatever growth is

made in the night, I think, it is weak and succulent, and no good; and I now think it is want of sunlight that causes this. I would only care to make growth when there is light at any time, but now I want to say that I think it would be best to grow only when there is *sun* light, and that the failure of our fruits to set in the forcing house is because we continue forcing whether there is sunlight or not. I think, if we force a fruit into flower when there is no sunlight, there is a something wanting, without which the flower cannot mature, and it withers away without setting a fruit. If this is correct, which I am nearly sure it is, we shall have to have a new theory to work on; hitherto I have made a difference of twenty degrees between night temperature and day temperature, and now I shall want to make a difference between a cloudy day and a sunlight day. I shall not think it safe to have much heat when there is no sun; but when the orb of day shines clearly I shall not care how much heat to apply to aid it in what I believe its fructifying work.

In my present place I have not so good a chance to try my new theory as I had two years ago, but I have a few trees to operate on in the greenhouse, and shall watch the result with confidence that my opinions will prove facts. I want to say further, that I hope such of my brother gardeners who may have a better chance to try it than I, will do so and report the result.

This is my first attempt at writing for the press, and I hope you will excuse errors. If you ever come this way and give me a call, I will try to show you better results from instruments of gardening I am more used to.

[Our friend rather mistakes us in the matter of night temperatures. We have always advocated a lower night temperature than the day, but objected to the *extreme* low temperature some of our fellow gardeners approve of. However, we can forgive this slight misunderstanding, in view of the excellency of the rest of the article, which is undoubtedly one of the most valuable contributions that has ever been made to our pages, and will receive attentive consideration from practical men.—ED.]

CULTURE OF THE CHRYSANTHEMUM.

BY MR. JAMES EADIE, PHILADELPHIA.

AGREEABLY to request, I send you my *modus operandi* of growing chrysanthemums. I take off cuttings about the middle of April, root them in sand, and, when well rooted, select pots of the size I intend to flower them in. Place a few crocks in the bottom, then a few rough pieces of loam; add two good handfuls of guano, with some cow-manure; then fill up the pot with good rich loam. I then

plant a dozen rooted cuttings in a pot, pinching off the points, using a rose on the pot at the first watering to settle the soil. Leave them in the greenhouse for a week (a frame would be better where there is that convenience); then place out of doors, full in the sun. Place the stakes in the pots as soon as convenient, tying the shoots out as they grow, pinching out the points every three weeks, until the last week of July, and watering with manure-water twice a week, taking care never to let them suffer for water, or they will lose their lower leaves, which gives them a starved appearance. By following these simple directions, you will have plants which will be an ornament to any place, and amply repay your trouble.

P.S.—I send you a few sketches of an article for carrying large pot-plants, the invention of Mr. Shephard, which is really a useful article, and is a great saving of muscle, besides being of great safety to the plants, which are apt to be broke with the breast, especially if very wide.

[A very simple and ingenious implement, which we shall engrave and give in our next.—ED.]

COCCULUS CAROLINUS.

BY A. W. CORSON, PLYMOUTH MEETING, PA.

I OBSERVE in the last *Monthly* a notice and figure of *Cocculus carolinus*. I have had a staminate plant probably thirty years, obtained from the Bartram Gardens as *Wendlandia populifolia*, which I have examined carefully when in leaf with the colored figure of *Cissampelos smilacina* in the folio edition of "Catesby's Carolina," published in 1776, and find them to agree in vine and leaf; also agreeing with De Candolle's description of *Cocculus carolinus*, so far as could be compared; and I do not doubt that the figure in the *Monthly* is of the same plant. What I wish to say it, that in my garden, twelve miles west-north-west from Philadelphia, it has continued in the open ground without covering or particular care; the winter killing the ends of the vines to near the ground, say from two to five feet, but growing freely, attaining a length of ten feet average, (and would probably attain a greater length if well supported by high trellises or poles,) flowering freely, I judge about August, but having staminate flowers only; produces no fruit. I have had it twice dug under in the spring; but each time it came up again late in the season. It has the habit of the *Menispermum canadense*, of sending up many shoots from the root, by which it can easily be increased. It is a handsome vine, and even the barren plant is worthy of cultivation as a curious, rare, and ornamental vine. Much more so would the fertile plant be if our seasons should be sufficiently long and warm

to perfect the fruit. So far as the vine only is concerned, there will be no difficulty. I have long desired to obtain the fertile plant, and hope for its being introduced shortly.

[Since publishing our last notice, we have learned from Mr. Nelson that he will put the fertile plant under propagation.--Ed.]

THE CHRYSANTHEMUM.

BY W. KEATING, BAYOU SARA, LA.

To some of those interested in the above beautiful flower, (for surely beautiful it is when well cultivated,) a few suggestions on a successful mode of growing them will, I doubt not, please many of its admirers. I have seen some of the leading Chrysanthemum Exhibitions in Europe, and I have seen them in a high state of cultivation in pots, and as border plants; but never have I seen any to surpass, or perhaps equal, in health and abundance of bloom, those I now have the pleasure of daily seeing. My employer, W. J. Fort, and especially Mrs. Fort, are particularly fond of them, owing to which circumstance they have a good collection, chiefly Anemone and Pompone varieties. Now, when it is remembered how cheap, and at the same time easy of culture, they are, one begins to wonder how it is people with gardens and greenhouses have not got them well filled with those lovely winter-flowering plants. I fancy the reason is, few see them growing otherwise than lanky, long, badly-flowered, half-starved, naked things. They do not see them in good condition. Dwarf, with a dark green foliage, covered with perfect flowers of every shade and color. This, then, is one reason; and perhaps I might hit on another. Some will say, such and such people have them, and they look, as I described them, naked. And surely if they cannot grow them, we can't. All this I know to be too true; for miserable, indeed, they do look in the hands of some. But let me ask, what will look well or nice if one day it be gorged with food, and then for four or more days left to perish of hunger! Others, perhaps, will say, "It's all well enough to write about their beauty; but making them look beautiful is quite another thing." And others, again, will say, "We tried, but cannot grow them in this dry, warm climate." To all of you I say, Yes, you can; and I'll now try and lay down a very simple method, easy of doing, and if done, success will crown your efforts.

If you have none, get two or three dozen of good sorts, say one dozen of each, Anemone, Pompone, and Large-flowering. This, then, will put you in a fair way to start. And as, no doubt, they will be in small pots, you must re-pot into larger, using a

stiff, rather rich compost. After a little time, they will show signs of growing, when they must be evenly stopped by pinching. After this, keep them dry till they begin to push forth, when water may be supplied; and if the pots are full of roots, shift into their flowering-pots or plant out; in either case, do not lose the ball. I will suppose they are to be flowered in pots. Therefore, after their final shift, plunge the pots in coal-ash, or in the soil, giving them plenty of room. And in the extreme heat of summer, if more cover is added, little, if any, water will be wanted. Now, staking is the next point. This done, little else will be required till the time comes for bringing them to their places of flowering. And whether this be a greenhouse, conservatory, or verandah, you will be repaid tenfold; to prove which, only it may be too far, I would invite you here to see, with your own eyes, this truly grand display of chrysanthemums.

FRUIT-GROWERS' SOCIETY OF EASTERN PENNSYLVANIA.

REPORT ON RASPBERRIES.

In their Report on Raspberries in the November number of your *Monthly*, the Committee for Philadelphia Co. allude to the Allen Raspberry and to some "*errors in its dissemination*." In your December number Mr. Allen, in reply, apparently assumes the ground that the Committee intended to charge or insinuate "deception towards the public" on his part. Deprecating, and desirous of avoiding, as far as possible, all personal discussions, (which are the bane of good feeling and true progress,) the Committee, with the sole object of putting both Mr. Allen and themselves right before your readers, ask a brief space for a reply.

And first, let us correct our language, which either Mr. Allen or your types, friend Meehan, have misquoted. We say, "a good deal of confusion and *disappointment* has resulted from errors in the dissemination of this plant. Mr. L. F. Allen, of Black Rock, N. Y., originally introduced to public notice two varieties, the Allen and Red Prolific, which are entirely distinct sorts. Parties here, however, have received direct from Mr. Allen, *as* these two varieties, plants nearly identical in every respect, neither of which corresponded with the description given in his circular, nor with that generally grown, among our nurserymen here, as the Allen Raspberry." The *italicised* words, the latter of which changes the sense very essentially, are omitted in Mr. Allen's quotation.

But for the "*disappointment*" resulting to some cultivators in our county, (to which district all their remarks were mainly confined,) the Committee would not have mentioned Mr. Allen's name at all,

nor did they intend to charge *wilful* errors upon him, but to state a simple fact in explanation of the disappointment experienced. They are authorized to name, among others, P. R. Freas, Esq., editor of the *German town Telegraph*, who showed to one of the Committee, (the writer of this article and of the report,) who carefully examined them, the two varieties referred to, neither of which, to a certainty, was the Allen. Major Freas stated that he *had* received these direct from Mr. Allen, and that, after two years' fruiting, he had dug them up as totally unproductive. They would not, nor did they intend to charge upon a veteran horticulturist of Mr. Allen's experience and high character, any *intentional* deception or wrong. Having given the evidence and authority for their statement, they would here dismiss that portion of the subject. They would add a few words, upon the action of the American Pomological Convention, in the rejection of this truly valuable variety, which action they deem hasty, and not founded upon sufficient trial and knowledge of its peculiarities. Its pistillate, or perhaps we might say, weakly staminate, character was very fully explained in the Convention by Mr. William Parry, of Cinnaminson, N. J., who had previously written an able article thereon in the *Country Gentleman*. But even this characteristic seems to vary with varying soils, as we have found instances of its high productiveness, when growing at a distance from any other sorts. As well might Hovey's Seedling, and all the pistillate strawberries, be "rejected" from the Society's list, for their almost universal unproductiveness when unimpregnated by staminate, as the Allen Raspberry. Indeed, with many, its pistillate character would constitute one of its chief excellencies?

A word as to its "thorough hardiness." Last winter, in the grounds of the writer, out of some twenty-five varieties of old, well-grown, strong bushes, six of each of the following kinds were purposely left unprotected, to test their hardiness: Allen, Knevett's Giant, Cushing, Cutbush's Prince of Wales, Rivers' Monthly, Catawissa, Imperiale. Save only one Catawissa, which retained about one foot of live cane, all were *destroyed to the ground*. All the other varieties, well protected, survived the winter, and gave large crops of fruit the present season.

J. E. MITCHELL,
R. CORNELIUS,
A. W. HARRISON.

BELLE DE FONTENAY RASPBERRY.

BY JOHN T. HARRIS, BELLEVUE, NEAR PHILADELPHIA.

I was pleased, on looking over the Report of the Philadelphia County Committee of the Fruit-Grow-

ers' Society of Eastern Pennsylvania, published in the November number of the *Gardener's Monthly*, to read such a favorable notice of the Belle de Fontenay Raspberry. I believe it was decided by the Pomological Society to call it that name; but, Mr. Editor, I was very loth to part with my more favorite name of Mervaille des Quatre Saisons, believing it to be correct. I received it under that name from a celebrated nursery, it being described in their catalogue as the best of its class. It certainly was, and is to me, the most marvellous raspberry I know of; but why the Fruit-Growers' Society of Eastern Pennsylvania should say that their Belle de Fontenay, which is the same as my Mervaille des Quatre Saisons, is of smaller growth, I do not know. Having grown the two varieties side by side these three years past, convinces me the reverse is correct. I can show now, and have exhibited at the store of Mr. J. Daniels, in Market Street, canes of the one five feet high, and very strong, while the other is weak and spindling. Indeed, among some ten or twelve varieties which I have under cultivation, I consider it to be the strongest of them all, and I doubt if there is a better for general cultivation, certainly not for amateurs. It is quite hardy, having stood without the least protection these three last winters.

[A general impression prevailed, a year or two ago, that under the two names of Belle de Fontenay and Mervaille des Quatre Saisons, or Marvel of the Four Seasons, there was but one kind,—and they have been, unfortunately, sent out under one or other of the names, just as it suited the humor of the sender. But it is now decided that there are two kinds; and, like Solomon's two babies, it is now a puzzle to know to which of the two each name rightfully belongs, and we do not believe the wise old king himself could decide it as easily as he did that baby question. The only way we know will be to get plants again direct from the original raisers. Perhaps some of our importers yet have the original direct stocks, and will favor us with authentic descriptions next season.—Ed.]

LANDSCAPE GARDENING.

BY GEO. E. WOODWARD, NEW YORK.

I am a subscriber to your paper* and have been since its commencement and it is prompt and welcome every month. I notice that when your subscribers want any information they ask for it. The matter with me this month is to get some further information on Landscape Gardening, a subject sometimes alluded to in your columns. Do not you think a great point would be gained if it could be decided whether Landscape Gardening is an art or a

trade? There is such a wide difference of opinion on this subject. Thus one of your correspondents assumes that one might as well ask how to become a portrait painter, or a poet, as to ask how to become a Landscape Gardener, and another tells us indirectly that pulling weeds, forking manure and raising string beans is just the thing to teach the principles of design, the harmony of color, and the art of construction, all tell us or infer that every one else but themselves are ignorant pretenders. But not one of them defines the duties, acquirements, or abilities of a Landscape Gardener.

Starting with the presumption that Landscape Gardening in its highest range is a gift, this being the burden of nearly every article we have seen on the subject, are we to suppose it is a gift only, to one particular business or calling? or that because one is so unfortunate as not to have been born and brought up in a garden, that he is counted out in the distribution of such endowments?

Mr. Copeland, in his valuable work and your correspondent J. M. C. are of the opinion that if a man happens to be an architect, an artist, civil engineer, a surveyor, or a draughtsman, it is one of the most unfortunate things that could befall him; too much knowledge of any one of these professions must necessarily lock the gate to success in Landscape Gardening, a little smatter of all is what they recommend, though others tell us—

"A little learning is a dangerous thing."

Thus, J. M. C. says 'the architect builds too much.' The 'surveyor levels too much,' &c., &c., to be Landscape-gardeners. May we not inquire if the Frenchman does not eat too much, the German drink too much, the New Yorker talk too much, ever to presume on success. Is there any one thing the gardener does too much of, or does perfection mark his work? "The true Landscape-gardener must be a gardener, practically and theoretically," this remark of J. M. C., we in common with all others admit, and during our apprenticeship in the garden were taught to believe it. Now what else must a gardener do before he can prefix landscape to gardener; what course of experiments must he pursue to find out if he has a gift? and then what degree of smatter must he acquire in other arts and sciences to qualify himself to pursue the refined and elegant art of Landscape adornment? or must we infer that it is impossible for a man to be good at more than one thing, that he cannot learn gardening because he is an artist, that he cannot be an engineer because he is an architect, and that he cannot be a Landscape-gardener because he knows too much of something else.

With a most remarkable disposition to believe what carries reason with it, and a curious desire to get

posted on what constitutes Landscape-gardening, we are led to ask for further information on this subject. We would like to see discussed by your able corps of correspondents—such statements as these advanced by Mr. Copeland, and endorsed by J. M. C.:

An artist cannot be a Landscape Gardener, but a Landscape Gardener must be an artist, and the same with architect, civil engineer, surveyor, draughtsman, and other professions, thus making Landscape-gardening most absurdly inaccessible, and granting its professor unlimited powers of acquisition.

In the present advancing condition of rural art there is a growing want of information on all subjects relating to it, too little is written or said when so much is needed, if we look back ten or twenty years, and then compare the general standard of rural taste with that of the present day, we shall see both an astonishing and gratifying difference. If we look for works or literature connected with rural art or taste, we shall find it of the most meagre description. If professional men are afraid to write because their opinions may be disputed, then their opinions must be poor ones. Very few men agree on the same subject, that however may not lessen the value of their opinions, a proper and fair discussion of the subject of Landscape-gardening would show it up on all sides, and might elicit some facts that would lie buried.

[We should be pleased to have from Mr. Copeland, J. M. C., or other of our leading Landscape Gardeners, their views of the science.]

To us it does not seem that any of our correspondents differ much in their principles, but merely in the extent to which they would carry them. As a man may be a thorough builder, and at the same time but an indifferent architect, so may another be an excellent practical horticulturist, and yet be utterly unworthy of the title of a Landscape Gardener. There can be no difference of opinion on this point.

It is also an admitted fact, that the best architect is he who unites with a correct and educated taste a thorough knowledge of the builders art, and the same will hold good in Landscape-gardening.

Landscape-gardening, apart from its application, is a science, having its theories and deductions, and depending for its existence, as any other science does, upon what *has been* done or discovered. In this sense any one may be a landscape gardener, and it is in this sense that we have advised every lover of rural life to educate himself, so that when he wishes to have the science reduced to an art, he may be able to distinguish the empirical pretender from the man of substantial talents.

When the science is to be embodied by the hands of art, and thus brought from the abstract to a combined existence with other things, we presume it

will not be denied that too much cannot be known of any branch that may however remotely have any connection with the details that go to make up the realization.

We hope our remarks will not prevent the desired interchange of ideas. We have only made them to give a direction to the movement, as the great advantage in all discussions is to have a clear starting point.—Ed.]

CUTTING DOWN OLD CANES IN THE VINERY.

IMPERATIVE NECESSITY OF IT.

BY WILLIAM BRIGHT, PHILADELPHIA.

EVER since I proposed my renewal system of grape culture, (viz: the cutting down of the entire cane after every fruiting season,) the experience of others, as well as myself, has been constantly tending to show that my advice in this respect was good, and grape-growers in England and America have been rapidly adopting a similar practice. In the last number of the *Gardener's Monthly* we are told that Mr. John Ellis, ("Fox Meadow,") finding his vines gradually declining in fruiting capacity under hard forcing, had decided to renew them by cutting down the canes after three years of spur pruning, in order to re-invigorate the vines. Now, if it is good practice to cut down the canes *after they are exhausted*, and when their power of producing good cane, as well as good fruit, is seriously impaired, would it not be better practice to cut them down after every fruiting season, while they are in perfect health and vigor, and still able to throw up another strong and perfect fruiting rod? Why push the fruiting powers of the vine to utter exhaustion before renewal? You would not drive a good horse thus.

But the most significant and valuable testimony in favor of my renewal plan may be found in the *London Gardener's Chronicle*, edited by Dr. Lindley, November 24th, in an article headed "How Strong Vines become Weak," evidently from the accomplished pen of the editor himself. The writer notices the generally-acknowledged fact that vines, in nearly all instances, in culture under glass, begin to decline in fruiting capacity as soon as the canes reach the top of the house. The cause of this, he says, is not generally old age, nor heavy cropping, nor the state of the soil, nor want of good management; but it is to be found in the fact that when the cane ceases to extend and to produce fresh masses of foliage, the amount of sap elaborated by the leaves is not sufficient to form a new layer of young wood over the surface of the old cane and roots, and at the same time to produce vigorous young shoots and a good crop of grapes.

Dr. Lindley being an admitted authority in vegetable physiology, I think his views will command

much attention. To my mind, his reasoning is very conclusive and satisfactory. In commenting upon the condition of a vine after it has reached the top of the house, and can be extended no further, he says:

"Whilst the amount of foliage continues to be every year about the same, an equal quantity of sap will be annually elaborated. But the thickening of the stem and roots is progressive; and it is evident that as their thickness increases, the layers of young wood must annually become thinner and thinner. A stem two inches in circumference, and ten feet in length, has two hundred and forty square-inches of surface; but this in a stem six inches in circumference is seven hundred and twenty square-inches, or three times as much as in the former case; therefore, with the same quantity of elaborated sap for its formation, the layer of new wood cannot be more than one-third of the thickness of that deposited on the less surface.

"Besides the quantity required to overlay the greater thickness of stem measured at a regular part, there are large spur protuberances to cover, and likewise wounds from pruning. All these go far towards doubling the surface over which the new matter prepared by the leaves has annually to be spread; and as the latter cannot be increased, the further increase of foliage being limited, whilst the demand is continually on the increase, it follows that the layer of new wood must necessarily be very thin; and when that is the case, the shoots cannot be otherwise than exceedingly weak, and the bunches small in a corresponding degree.

"Having thus endeavored to point out a cause which uniformly tends to reduce vines to a state of weakness, it remains to indicate the remedy. This is very simple; for we have only to remove the old wood by cutting back as near to the ground as can properly be done. The result of this will be a vigorous growth of young rods, which will bear as vines ought to bear."

Here is my renewal system, precisely. As soon as the vine has reached the top of the house, and can extend no further, it must decline, and hence should be cut down if we wish to maintain its full fruiting capacity. Now, as every good vine is capable of making a good fruiting cane as long as it is desirable to fruit in one season, it follows that it may be cut down with advantage the next season after it has been fruited. But you may say that it may be worked upon the spur system for two or three years before it reaches the top of the house, and hence, even on Dr. Lindley's theory, it is not necessary to cut it down oftener than once in three years. I grant that the vine may be so spurred and fruited and so renewed, with fair results; but I assert that I can obtain better crops and better fruit from shorter canes, renewed after every fruiting season, and that vines so treated will not only remain in undiminished health and vigor for an unlimited number of years, but that they will, likewise, gain additional vigor and capacity every time they are cut down.

I am further of opinion that when root-pruning is performed simultaneously with the cutting down of the canes, that a new set of roots will be obtained of as much value, in respect to the fruiting power of the vine, as the new wood. This last idea, however, is only an opinion; I have not yet put it into practice, but shall do so very soon, especially in our inside borders.

The Gardener's Monthly.

PHILADELPHIA, JANUARY 1, 1861.

✂ All Communications for the Editor should be addressed
"THOMAS MEEHAN, Germantown, Philadelphia," and Business Let-
ters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY
Box 406 Philadelphia."

TO ADVERTISERS.

Re- Copies of Advertisements, when they occupy an entire page, of
this paper, will be furnished to the advertiser, printed on good paper,
for private distribution, at the low price of THREE DOLLARS per thou-
sand. *Nurserymen* will find this an economical way of getting their
Wholesale Lists and Abstract of Catalogues printed.

TO ADVERTISERS.

NURSERYMEN, Seedsmen, Florists and others
should bear in mind that the season has arrived when
their advertisements should be inserted. As we
have a large Southern circulation, and as their plant-
ing season commences early in February, it will be
seen that no time is to be lost. In preparing adver-
tisements, the directions on the first page of the
"Advertiser," should be carefully observed.

TO SUBSCRIBERS.

This number commences the *Third volume* of the
Gardener's Monthly, and we take the opportunity to
remind our readers, that we have been able to make
the journal a success at so small a sum as *one dollar a
year*, solely by conducting it on the CASH principle.
This requires no complicated system of book-keeping
demanding a staff of clerks, nor a force of collectors
to gather in the subscriptions. All this money we
save by the cash method and spend it on the paper.

Last season a few friends who, as they did not re-
new their subscriptions, we discontinued sending
the paper to them, wrote indignantly to inquire
whether we could not "trust them a few months for
a dollar." We are pleased to say, that only in a
very few instances last year were our reasons in this
respect misunderstood, but we deem it right if there
were but one such instance to explain why we are
compelled strictly to act on the rule of *payment in
advance each year*.

PRUNING EVERGREENS.

It is a pleasure to see sound doctrines win their
way to popular favor. It is not many years since
one dared to prune a tree at transplanting. Before
that he was sure to get the pity of the knowing ones;
now he who does not prune, is the one who gets
pitied.

By understanding that trees die after transplanting
from evaporation, and that pruning is one of the chief

modes of lessening the demand on the mutilated roots
for moisture, the re-planting of deciduous trees has
become a pretty certain operation. The digging of
trees is often entrusted to careless or unskilful hands.
One is never certain how his tree will be taken up;
but should it be handed him in a dangerous condi-
tion, he knows at least how by pruning the head, to
save its life.

These facts now constitute a general rule of action
in the case of deciduous trees. Evergreens are popu-
larly supposed to be an exception. It is said that
the "people are seldom in error, and are never so
long" and we hope for their interest it will prove so
here.

Evergreens are as thankful for the knives' good
offices, as a deciduous tree. The same laws govern
them, and the same practice follows. Indeed, the
laws of evaporation bear harder on the evergreen.—
It has a larger surface of foliage; more extended
channels for evaporation. In winter when evapora-
tion bears the hardest on a transplanted tree, that of
the deciduous section has only its branches exposed.
All the moisture it loses passes out through them.—
But the Evergreen has in addition a large mass of
foliage, through which its juices are continually being
drained, till by spring it becomes as a squeezed orange
to the Ice King, and is cast away as worthless.

It is a fortunate circumstance that while a greater
necessity is shown for application of the principle,
experience shows the Evergreen to like it. The an-
ticipated happiness of a want fulfilled, is seldom in-
deed so well experienced in its realization; for the
Evergreen absolutely luxuriates in a good pruning.
We are not sure that it can have too much. Judi-
ciously performed we have never seen it over-done.

"Judiciously performed" has a deep meaning
when writing of evergreens. We have of course re-
ference to Pines, Spruces, and Firs. These consti-
tute what may be termed the border line between
the two great divisions of the vegetable kingdom.—
The Endogen, such as the Palm, that increases from
he centre, has an erect tendency, and a disposition
to have none, or to lose what few side branches it
may have; and the exogen, which increase from the
outside, and has a bushy spreading-headed habit.—
It is this intermediate position that gives Pines their
upright appearance, in which they approach the en-
dogen; and their branching habit, which allies them
to the exogen. In our practical treatment of them,
we have to combine what we would do separately.

If we cut off the head of a true endogen it will not
make another leader, but throws all its strength into
its side branches, which usually take the form of
suckers from near the surface of the ground. The
Cocoa nut, and plantain are familiar examples. Their
stems have to be cut down to the ground when they

once lose their heads. In a decided exogen, a maple for instance, the cutting off of a leading shoot only makes it the more determinately seek to furnish another to supply its place, and this it does at the expense of the side branches, which become weaker and finer, till if the heading-off is repeated, they often die entirely away.

We have thus to reverse the modes of pruning.—To make an evergreen bushy the surest way is to cut out its central shoot. It does not like to make another, and so all its growth is forced into the lower branches, which thus become very dense, and of surprising luxuriance. Very often when old plants are operated on, they will utterly refuse to make another leader, in which case the nearest side branch must be carefully tied up to a stake, secured to the main stem for the purpose. This makes for a couple of years an ugly curve, after that it becomes gradually absorbed in the thickening of the trunk, and is scarcely visible eventually. If, however, the terminal shoot is pinched off with the finger and thumb, while it is young and succulent, in June, when it is elongating, the growth will be just as much checked, while you have the advantage of the formation of a lot of new buds, which will of themselves form leaders another year. We have never known any kind of Pine to fail in making these buds in the shoots of present season's growth, when they will do so but very unwillingly from older wood.

The Scotch Pine, usually so rugged and art-forsaken in appearance, make beautiful objects under this treatment. The top buds, and buds of shoots round about the central shoot, may be freely operated on, but the lowest buds should never be touched. This last rule is essential.

All that we have said has been to illustrate the principle in an every-day view. In transplanting more is useful than to merely pick out central buds; whole portions of branches may be freely cut away. Top branches be it still remembered. In all this a neat eye will be required to keep a good shape to the tree. Of course they will not be cut off so as to leave the branches standing out like the stubs of a worn out broom; each branch should be taken out close down to where another diverges.—Fortunately in Pine and Spruces this can be prettily done by taking out the central shoot in each branch. We saw a friend recently take out one hundred cuttings from a five year old *Pinus excelsa* and no passing eye could notice that the knife had been used at all, or see any thing but a most magnificent specimen which this yearly treatment had rendered it.

We have a weakness for facts. We know how theories deceive, and often none more so than those who originate them. We have shown how ever-

greens ought to be benefited by pruning,—have explained theoretical reasons why this kind should injure them, and that benefit them. But after all we feel how inconclusive it is against a sight of what actually *has been done* in this way. No one who visits Northern Philadelphia, ever leaves it without being struck with the appearance of the younger evergreens growing about it. Much of this has been owing to the genius of Mr. Bright, who, while most of his neighbors were laughing at his theory, was like a horticultural Garibaldi, unswerving in his purpose, and has marched on to victory—a victory not only of principle, but we believe a golden victory, which after all is one of the most weighty of arguments in favor of any theory.

The pruning of evergreens at transplanting has only one objection. The interior leaves and shoots are usually tender from long and close confinement, and, on cutting away the outside ones, these protected ones suffer from sudden exposure. Judgment will be required as to where, when, and how to cut. With experience the objection will soon be found to vanish.

VINE MILDEW AND INSECTS.

In one of our earlier numbers our valued correspondent Dr. Uhler, gave us a translation from the French of Raspail's experiment in watering plants with a solution of aloes, in order to render the plants themselves distasteful to insects. Experiments we believe have been tried with it so far as the curculio is concerned, and found to be unavailing; but when we consider that not only is the fruit of a plant composed of a more elaborated form of the sap, in which we might naturally look for less of the "aloe" or any other "flavor" employed in the plants nutrition; and in this point alone less likely to be effective than when employed externally to keep the plants clear of insects,—we have also to consider that it is the egg depositing principle of the curculio that injures the plum fruit, and not its feeding propensity, and consequently no nauseous element whether externally or internally applied is likely to be proof against "him." But it is a well ascertained fact that vegetation, as well as animal substances do not entirely change the nature of the combinations they absorb into their systems by the process of nutrition. The flavor of the turnip and garlic can be tasted in the milk of the cow, and as some trace of coffee and tobacco have been found in the flesh of the subjects who have been partial in their life-time to the weed, and "Arabian-berry's sober juice;" some German Physiologists have concluded that "nicotiane" and "caffeine" are essential elements in the human system! Radishes in early spring, forced near large cities to an early and

monstrous maturity, have a well known disagreeable taste of the powerful stimulants employed in their production,—and a pasture-field is usually thickly studded with hillocks formed by grass, which owing to the accident of having an abundant supply of rank manure cast in its immediate vicinity, has become so impregnated with disagreeable matter that cattle will starve rather than touch them.

This all goes to show that the principle Dr. Uhler presented for our readers consideration is worth much more careful experiment. We find that the French are still pursuing their investigations, and widening the field of inquiry. In a recent number of the "*Comptes Rendus*," a French scientific journal, is the report of a paper by M. Mercieul, read before the Academy of Natural Sciences, at Paris, detailing an application of the principle to the prevention of Vine Mildew. "He selected a number of stocks of diseased Vines, which the previous year had been so seriously attacked by the Oidium that not a single Grape could be gathered. He divided them into two equal groups. The one he submitted to treatment, and the other he left for the sake of comparison. In the beginning of August the Oidium began to appear on both groups. On the 16th he submitted the first group to the following treatment: he removed the earth around the stems of the Vines a distance of about a foot, and of a depth to lay bare the small rootlets. Into each excavation thus made he put a large handful of flowers of sulphur, heaping it up around the stems. This being done he replaced the earth and watched the Vines daily. On the 20th of September the Vines of the first group were in excellent condition, and the Grapes presented a fine appearance. The mycelium (fungus) had not disappeared from the berries which were attacked at the time the sulphur was applied, but they were not farther diseased, and he had every reason to believe that they would come to perfection. He particularly observed that none of the other berries became diseased. The second group was in a most pitiable condition. The Oidium had made rapid progress, and there appeared every reason to fear that not a single Grape would be saved."

Of course we cannot say that there is a satisfactory solution of the Vine Mildew trouble in this single experiment; but it is plausible from the facts we have stated already. We know a cultivator of the Dwarf Pear, whose White Doyennes were worthless by cracks, and others injured by leaf blight to a great extent,—diseases which are now well ascertained to be connected with a small form of almost invisible mildew. He gave the roots a strong dressing of potash, and the orchard is now one of the healthiest we know. If one mineral in the form of potash will eradicate a form of mildew from the Pear, sul-

phur another mineral is quite as likely to perform the same good service for the Grape vine.

The subject is comparatively new and promises great results. We hope to hear more of it henceforth.

OUR NEW DRESS.

Our Journal appears this month in new type, for which our readers are indebted to the skill and taste of the Type Founders, Messrs. Collins & McLeester, of this city, who have furnished us with a bold, clear and beautiful type, without in the least diminishing our usual amount of reading matter.

Scraps and Queries.

PRUNING, &c.—In pruning vines, how do you distinguish the shoots that have fruited from those that are to fruit next year? As I understand it from the works on the subject, the shoots that have fruited are cut down to one or two buds, and the others to six or eight feet lengths; but I can not tell one from the other. (1)

What are the distinguishing characteristics of the leaf, fruit, and wood buds in pear, peach and plum trees? I wish to prune my own trees, but not being able to tell one bud from the other, I am almost afraid to make the attempt. (2)

Is the month of March or April a proper time to prune *all* fruit trees? (3)

My Camellia buds are very small; is it owing to the nature of the soil? What is the proper soil? Is the month of March or August a proper time to shift Camellias. (4)—*A Subscriber, Phila.*

(1) Simple as our correspondent's questions seem, they are difficult to explain briefly. Any shoot that has sprung from the old or main stems of a vine the previous year are or should be bearing shoots, and are what are referred to in works as "to be cut back to two or three eyes."

(2) Fruit buds are rounder, fuller and plumper than leaf buds. The difference can be detected only on careful comparison one with another, but an experienced eye soon learns the difference at a glance.

(3) If they need pruning, any time in the winter to April is good. If growing very vigorously, trees may not need pruning.

(4) If the pots are comparatively small and full of matted roots, have not been repotted for years, and though growing freely and healthily, have but a weak growth, they may want re-potting. Just before they show indications of growth is the proper time; and any porous, open soil that will not become hard or heavy, will grow them well.

• TREES AND SHRUBS OF TENNESSEE, R., Obion Co, Tenn.—In my travels about the "Bend," I find a number of vines and trees that are quite new to me. I have collected leaves of most of these varieties and pressed them into service. I would very much like to ascertain the name of each as I am no botanist; besides, I wish to write an article or two for your valuable journal when I have obtained the names of these specimens:

1. This I got in South-western Missouri. It grew on a shrubby tree, say 10 feet high.

2. Produces a flower like the trumpet vines; described by me in the August number, page 230.

3. Green brier vine, with black berries in clusters; it climbs up fifty feet.

4. Is a vine that bears clusters of black glossy berries about the size of a large pokeberry. It makes a beautiful arbor on small trees.

5. Is a delicate vine that will run up a tree 30 or 40 feet sometimes. The berries are the size of a medium currant, grows in small close bunches, two or three inches apart on the vine, and the berries are tender and the color of red coral; it is very beautiful.

6. The thornless thorn tree.

7. A common flower.

8. A small vine that runs straight up a tree and puts out pretty leaves.

9. Bears an orange berry; the hull opens out and displays a red berry; runs 40 or 50 feet sometimes.

10. Alder; mentioned in August number.

11. A small tree, with a coral berry size of a medium currant; the bunches sometimes are so full that there seems no room for leaves; showy.

12. Large dark Muscadine Grape, from Missouri.

13. A blue-eyed flower.

14. A small tree, or bush, with black soft berries, from Missouri.

15. A small tree with oblong dark berry.

16. do do bush with small white berries in upright clusters.

17. Vine with oblong dark purple berries grown in thick clusters.

18. Vine growing on small trees, with white berry.

19. From a forest tree with trunk something like the beech tree.

I hope you will not get out of patience naming the above; but if you do, I will attribute it to the imperfect specimens.

[The specimens were a little too small to distinguish well. Friends who send us specimens for name should send flower and leaves both, if possible. The leaves of very different plants are often alike.

1. Staphyllea trifolia.

2. Bignonia capreolata.

3. Smilax rotundifolia.

4. Ampelopsis bipinnata.

5. Cocculus Carolinus.

6. Gleditschia inermis.

7. Cassia chæmacrista.

8. ?

9. Celastrus scandens.

10. ?

11. Ilex decidua?

12. Appears to be a form of the Scuppernong Grape.

13. Comelyna communis.

14. Rhamnus Caroliniensis.

15. Bumelia lycoides.

16. Cornus paniculata.

17. Berchemia volubilis.

18. Vitis cordifolia.

19. Carpinus Americana.

NAMES OF PLANTS, B. Losee, Coburg, C. W.—Your specimen was ground into snuff when it reached us, but we judge by the smell that it belonged to *Prinos verticellatus*. You must be mistaken in the bud of the other plant being a Canadian Annual; it belongs to some species of *Helichrysum*, from the Cape of Good Hope, but we cannot tell which species without the leaves.

NAMES OF CORRESPONDENTS.—A great number of letters have reached us for the name of the gentleman to whom we alluded as having the very early Seedling Peach. As the letter was private, we had no authority to give the name, but are assured the gentleman will do so himself after he has tested it fully another season. He is not one to keep all the good things to himself when proved to be really useful.

FORCING VEGETABLES IN THE FIELD.—I understand that peas and other vegetables are forced by hot air drains running under the field, in Delaware County, Pa. Will not some of your correspondents furnish the readers of the *Gardeners' Monthly* with the mode of constructing such hot air drains? and also give the practical results?—E. R. M. St. Louis, Mo.

[There were no details given in the article from whence we extracted. Our correspondent, Mr. Elder, can perhaps furnish them, and oblige us.—Ed.]

BARBAROSSA AND PRINCE ALBERT GRAPES.—We are pleased that some of our correspondents are getting into the habit of sending us short facts for publication as well as the usual amount of valuable essays and articles. One of our most reliable grape-growers writes that he has fruited both these grapes, and finds they are distinct; the latter ripening four weeks before the other.

NEW WHITE EGG PLANT—Abraham Collins, York.—In the October number I notice a description

of "New White Egg Plant." I am anxious to cultivate it, and will be much obliged to you for some information, *how and when* I can procure the seed?

[We presume our principal Seedsman will have it for sale the next season.—Ed.]

ORANGE TREES.—Can you inform me where I can get a few budded Orange and Lemon Trees?

[Most of the larger Florist Establishments have them for sale.—Ed.]

CHENANGO STRAWBERRY APPLE.—*Wm. Collins, Smyrna, N. Y.*—"I find you have made some mistakes in publishing my last communication. My name is printed N. Collins, instead of W. Collins. I received this morning a communication addressed N. Collins. Being a nurseryman, it is of some importance to me that it should be corrected. In publishing my letter you make me say that the shoots of the Strawberry are light yellow white; those of the other are much darker, and more nearly green. It was written (or intended to be), the shoots of the Strawberry are light yellow, while those of the other are darker, and more nearly green."

[We plead guilty to the charge of error in the type making an N. out of a W.; but the other is not the "type's" fault. The manuscript was not punctuated, and the printer's had to stick in the stops wherever seemed reasonable, and in crossing the *t* in "those" Mr. C. run his pen into the *l* in the word before it; transforming it into a *t*. We are happy to make the correction, no matter whose is the fault, and go into particulars only to show how careful our friends should be to "dot their *t*'s," "cross their *t*'s," and *not* cross their *l*'s.—Ed.]

BUCKINGHAM APPLE.—In Mr. Van Buren's article "emigrated" should read *originated*, and in fifth line from the bottom "clubbed" should read *dubbed*.

Books, Catalogues, &c.

THIRD ANNUAL REPORT OF THE BOARD OF COMMISSIONERS OF THE CENTRAL PARK, NEW YORK. 1860.

By the kindness of Andrew H. Green, Esq., Comptroller of the Board of Commissioners, we received this document some time back; but it is so replete with valuable facts and statistical information, that we have held it over for more than a cursory examination. And we regret, that we can now do little more than give a faint abstract of its contents.

The principal part of the operations performed the past year have been in road and bridge-making. Of roads, 7233 feet of McAdamized, 9838 of Telford, and 200 of gravel, have been finished. Mr. Olmsted

has himself referred, in the first volume of our journal, to the experiments here of these two kinds of roads, and we have been anxious to see them on a fair trial, as we know of no instance where any satisfactory comparative experiment of the Telford road has been made in this country. Its chief principle is that "Upon the prepared road-bed a pavement of quarry stones is set by hand, the stones being from seven to ten inches deep, three to six inches thick, and generally not of greater length than twice their depth, the aim being to use stones of as nearly a uniform size as possible, and parallel sided. The stones are laid lengthwise across the road, with the broadest edges down. After being set closely together, they are firmly wedged by inserting and driving down, in all possible places, stones of the same depth, until every stone is bound and clamped in its proper position.

"The projecting points of the stones on the top of the pavement are next clipped off with a light hammer, and the spalls and chips at the same time worked into the interstices not already filled by the process of wedging. By this operation the pavement is reduced to an even surface and to a depth of seven to eight inches.

"The pavement or substratum of the road is then ready (after laying the gutters) for the reception of the finishing material of the road.

"Broken stone of the ordinary McAdam size (to pass through a two and a half inch ring) are spread evenly over the pavement in successive layers, and rolled down until the full depth is about five inches. The first rolling is done with a light roller, to avoid disturbing the paving stones.

"On the top of the broken stone, about one and a half inches in depth of gravel is evenly spread, and the whole is thoroughly rolled down with a heavy roller, weighing six and a half tons. Both stone and gravel are kept moistened by sprinkling carts, while the rolling is going on, the gravel working down into the interstices of the stone under the roller, consolidating and binding the whole material. When completed the whole depth of pavement, stone and gravel, is twelve to thirteen inches."

Nothing appears in the Report to indicate which of these systems is likely to prove the best, and we shall look for some reference to this subject in future Reports with interest.

One point seems proved in the Park experiments, namely, that one of the main objects of heavy stoning of roads—the preserving the road-bed from frost, is scarcely ever effected in this country. The Report says:

"The samples of these roads that were first constructed (in 1858) had a depth of fifteen inches of road material. Recent examinations show, that the

frost, during the present winter, has penetrated the ground from six to fifteen inches below the road material on the roads of twelve inches depth."

In this respect, we should judge the Telford road will be inferior to the McAdamized, as the greater

[ARCHWAY UNDER TRAFFIC ROAD FOR FOOTPATH S. E. OF THE MALL.]



porosity of the latter will be unfavorable to the rapid conduction of heat.

Vitrified pipe is employed for the construction of drains under the road-bed, to carry off the water

from the surface of the road. In order to prevent their becoming choked by gravel from the washings of heavy storms, silt basins are constructed. These are small shallow wells, formed of brick or vitrified stone-ware, sunk some feet below the level of the pipe at the mouths of the drains; the heavy matter sinks into this, and the water only rises to the level of the drains, down which it has to pass.

"When no silt-basins are used, the dirt is deposited along a considerable length of the drain, and may obstruct it at any point where, from roughness, or from some other imperfection of the tile, or from an alteration in the grade, and consequently in the velocity of the current, it is most readily deposited." After each heavy rain, these silt-basins are cleaned out.

For material to cover the stone in the road-beds, that will bind well in all seasons, and be objectionable in none, nothing has been found entirely satisfactory,—and the field of invention of something useful is still here open for some enterprising genius.

Under the head of bridges we cannot derive much statistical information that can be generally applied. The Report is illustrated with several very pretty engravings, giving specimens of the various styles employed. The one we give is a representation of a bridge over a foot-path, sustaining a general traffic road, by which the outside public traverse the Park, without seemingly entering it.

We consider it a combination of two distinct objects, in a very happy way, in which the useful and the beautiful are well blended. Bridges will be a great feature in the Park. Eighteen are either completed or are in progress,—and, judging from the plan, they are but a small portion of the number projected.

At the time of our visit to the Park, in 1859, no person could make such large trees, as had recently been planted there, live without a heavy pruning, and predicted that the majority of these, being unpruned, would certainly die. The Report tells us that this has been the case. "On the promenade, where the principal plantation of large trees has been made, numbering about one hundred and fifty, a large per centage have failed. They were set by contract, guaranteed by the contractor, and have been mainly replaced at his expense."

We have been informed that the contractor has learned wisdom from experience, and the last planted were heavily pruned-in, and hence have been apparently more successful. We say "apparently," because we feel that the Commissioners will at a future day be sorry that they ever allowed the experiment. Our climate is against the successful removal of very large trees. Even in the comparatively moister and more regular climate of France,

from whence we are accustomed to hear the most flattering results of large tree-planting, they have to keep the trunks and larger branches continually swathed in hay bandages, and invent contrivances to have water continually running down the branches to retain life in them. It is, perhaps, as well that the Commissioners allowed the experiment, after all. It is hard to kick against the prejudices of the public. This obstinate embodiment of a tyrannical personality is bound to declare that "it can't wait for those little things to grow," and the Commissioners would, perhaps, have had to endure a storm of indignation if they had not afforded a practical lesson, that they *have to wait*. Nine-tenths of large trees, in our climate, with the best of skill employed on them, will assuredly fail in transplanting.

One of the most valuable portions of the Report is that by Mr. Waring, on the Drainage of the Central Park. The statistical table of the operations of the drains affords data for some calculations that we have never been able to get at before. It appears that, from July 13th to November 18th, 286,000 gallons of rain-water fell on one acre of ground.

During a great part of the time,—the exceptions being only when, from dry weather, the discharge from the drains seemed uniform,—the quantity passing through the drains was measured daily, and an approximate quantity for the next twenty-four hours obtained. The total sum of the quantity measured is about 112,000 gallons. We have formed an estimate of the quantity that flowed on the days not measured, making the whole amount of water flowing through the drains, say 160,000 gallons, against 286,000 gallons of rain that fell in the same time. The Commissioners say that this ground was naturally a bog; it is, therefore, fair to consider that perhaps 60,000 gallons of this discharge came from the natural fountains of water in the land, leaving nearly 200,000 gallons of water unaccounted for. It would be very interesting to know whether all this amount was carried over the surface to the creeks and streams, or what portion sunk in the earth beneath the operation of the drains. If these facts could be even approximately arrived at, and we think, with some slight alteration in the conduction of the observations they could, the data might afford some considerable assistance in the study of the science of draining.

BUIST'S ALMANAC AND GARDEN MANUAL FOR 1861, for gratuitous distribution, is an improvement on that of last year, though we were compelled to speak well of it. Its chief feature is the select lists of the various classes of plants given. The following is Mr. Buist's choice of roses:

"Hybrid Perpetual or Remontant..—Augusta Mie,

Jules Margottin, Giant of the Battle, Sydonie, Madame Rivers, Pius IX., Queen Victoria, Robert Burns, Lord Raglan, Enfant de Mt. Carmel, General Jacqueminot.

"*Tea (Indica odorata).*—Devoniensis, Gloire de Dijon, Goubalt, Souvenir d'un Amie, Madame Roussell, Etienne (pure white), La Reine, Triomphe de Luxembourg.

"*Bourbons.*—Hermosa, Sir Joseph Paxton, Appoline, Queen, Levison Gower, Dr. Leprestre, Souvenir Malmaison, Blanche Lafitte.

"*Noisette.*—Fellenberg, Caroline Marniesse, La Pactole, Du Luxembourg, Chromatella, Perfecta.

"*Bengal or Daily.*—Jacques Plantier, Agrippina, Abbe Moiland, Vesuvius, Cels, Sombreuil.

"*Hybrid China.*—Coupe d'Hebe, Fulgens, Charles Lawson, Paul Ricaut, Mad. Plantier, Vivid.

"*Moss.*—Comtesse de Murinais, Princess Adelaide, Alice Le Roy, Luxembourg, Perpetual Moss Salet, Purple Moss.

"*Prairie.*—Queen of the Prairies, Baltimore Belle.

"*Miscellaneous.*—Persian Yellow, White Microphylla, Fortune's Yellow, Madame Hardy, Provence Cabbage, Pink Microphylla."

All good kinds and reliable, though some are not included we would not like to spare. In the Noisette class, for instance, we would certainly add Triomphe de la Duchere and Pentland's Woodland Margaret, a hardy free-blooming white kind that has not yet had justice done it. Of Strawberries for general cultivation, Mr. Buist's choice is:

"Wilson's Albany, Princess Royal, Prince's Mag-nate, Imperial Scarlet, Hovey's Seedling, Feast's Fillmore, Hooker, May Queen (early)."

The following extract gives an idea of the general tenor of the "almanac:"

"Heating greenhouses and hotbeds by hot water is daily being more practicable and economical. In our last edition we pointed out how to overcome a dip in hot water pipes at the boiler. We now confirm this fact, and intimate another,—that four-inch pipes, for conducting hot water through greenhouses and other buildings, can be obtained at about twenty cents per lineal foot. They can be joined by any workman with a few rounds of packing-rope, then a round of putty, then a few thin rounds of rope, hammering it home with a thin chisel, and finish the joint with putty. The putty is made of about the following parts: one-third glaziers' putty, one-third white-lead, one-third dry red-lead, all carefully mixed together and rolled up into the consistency of glaziers' stiff putty. Our laborer makes a joint in ten minutes. We, however, pay about forty dollars for a boiler, but will not endure it any longer; the same article may be made for half the money.—Wherever a greenhouse extends beyond sixty feet

in length and twenty in width, it is economical to use hot water."

THE AGRICULTURAL PRESS.—Few persons estimate sufficiently high the value of their local agricultural papers. However valuable may be a journal like ours, which, aiming at a cosmopolitan sphere of usefulness, has necessarily to deal with principles rather than special details of local practice, one's local paper should never lack his strenuous support. There are always local circumstances and special influences, that will modify frequently the soundest scientific deductions, and in no way can these peculiar results be so well brought out as in the columns of one's local journal. Sometimes one may differ as to the manner in which his local paper should be conducted. He may think that *this* should be noticed, or *that* should have been left out; but in such cases the spirit of concession should prevail, and support for the good it does is its rightful due.

With these views we have ever thought it our duty, as horticultural propagandists, to keep our readers posted on the merits and existence of the agricultural journals of our country. Whenever there has not been too great a pressure on our advertising columns, we have inserted lists of them, with their publishers and prices. We shall continue to do this through the next year, and shall be pleased to receive specimens of new ones that may arise; or that we may not have included in our list.

Almost every country paper has now its agricultural column; but amongst those which may be called strictly agricultural,—uniting horticulture and the kindred branches,—we may name:

THE GENESEE FARMER. Published by Joseph Harris, Rochester, N. Y. It has been thirty years in existence, has done immense service to agriculture and agriculturists, and is published at 50 cents per year.

THE AMERICAN FARMER. By Worthington & Lewis, Baltimore, Md. Another monthly, at \$1 per year. The oldest in the country, and bearing a high character for sound scientific teachings.

RURAL NEW YORKER. By D. D. T. Moore, Rochester, N. Y. A weekly, at \$2 per year. Is one of the most popular sheets published, and, in every sense, well sustained.

THE FARMER'S JOURNAL. By De Montigny & Co., Montreal, Canada. \$1 per annum. Though we have but recently seen a number for the first time, it has been thirteen years in existence. We greatly admire its motto, "The Soil—it is our Country. By improving the one, we serve the other."

THE OHIO CULTIVATOR. By S. D. Harris, Columbus, O. Thirteen years published; has always

been popular at \$1 per year; but to make it still more so, will, in future, be only half that price.

THE COUNTRY GENTLEMAN. By Luther Tucker & Son, Albany, N. Y. A weekly, at \$2 per year, is so well known and appreciated, that we need add nothing.

THE AMERICAN RURALIST. By J. R. Dodge, Springfield, Ohio. We believe, a monthly, at \$2 per year. We have heard it highly spoken of; but as we are not sure that any number has ever been received at our office, we cannot speak from experience.

THE WISCONSIN FARMER. By J. D. Powers & Co., Madison, Wisconsin. A monthly journal, at \$1 per year, of the merits of which our columns have before spoken appreciatively.

THE INDIANA FARMER. By J. N. Ray and H. C. Gray, Indianapolis. Monthly, \$1; weekly, \$2 per year. Is one of our favorite exchanges.

THE NORTHWESTERN FARMER. By Miller & Drayton, Dubuque, Iowa. Monthly, at \$1 per year. Is now in its sixth year, and is well sustained in all its departments.

THE WOOL-GROWER gives monthly information on the growth and sale of wool, and is published at Cleveland, Ohio, for 50 cents per year.

THE OHIO FARMER. By Thomas Brown, Cleveland, Ohio. A weekly, at \$2 per year. Is generally received as one of standard authority in its line.

NEW HAMPSHIRE JOURNAL OF AGRICULTURE. By W. H. Gilmore, Manchester, New Hampshire, at \$1.50 per year. Is the only one in that State, and deserves the united support of the New Hampshire agriculturists.

RURAL REGISTER. By S. Sands & Miller, Baltimore, Md. Bi-monthly, at \$1 per year. We regard it as one of the wonders of the day, even though so much for so little is of common occurrence.

THE SOUTHERN CULTIVATOR. By D. Redmond & C. W. Howard, Augusta, Ga. Monthly, at \$1 per year. Nineteen years established, and stands amongst the first in ability and popularity.

THE HOUSE AND GARDEN. By Thos. Brown, Cleveland, O. A monthly, at 50 cents per year. We have recently noticed it.

THE PRAIRIE FARMER. By Emory & Co., Chicago, Ills. Established in 1841. The horticultural department is, we believe, under the control of Dr. Kennicott, and the journal itself has an extended and enviable reputation. It is a weekly, at \$2 per annum.

THE NEW ENGLAND FARMER. By Nourse, Eaton & Tolman, Boston, Mass. Weekly, \$2; monthly,

\$1. Does not often reach our table. What we have seen of it has been of the highest excellence.

KENTUCKY FARMER. A. G. Hedges & Co., Frankfort, Ky. Monthly, \$1 per year. Is the only one in Kentucky, and should be energetically supported.

THE HOMESTEAD. Mason C. Weld, Hartford, Conn. A weekly, at \$2 per annum. Is well appreciated through the community, not only for its quality, but for its neatness also.

THE SOUTHERN HOMESTEAD. By L. P. Williams & Co., Nashville, Tenn. A weekly of eight pages, and the only illustrated journal published South. \$2 per year.

There are many other useful and valuable journals, which we will notice on some future occasion. Those we now refer to we have taken up in the order they run in our last month's advertising columns, where full particulars of each journal may be found.

Though not under the head of "agricultural" journals, the advertisement of *Hovey's Magazine* also appears in our last; and so may also be noticed here. As our elder brother in Horticultural literature, having been twenty-seven years in existence, it would look presumptuous in us to speak of its merits. That its subscription-list continues to increase largely, as it does, is one of the best proofs of popular appreciation.

THE MINNESOTA FARMER AND GARDENER. Published by Messrs. Ford & Stevens, of St. Paul. We have received the first number of this journal, which exhibits signs of future energy and usefulness. We select the following Minnesota facts for our readers' information:

Minnesota Sweet Potatoes.—The Nansemond variety has been found, the past season, to be a successful crop at St. Paul.

Onions in Minnesota.—Mr. Daniel Hopkins, of Groveland, Min., has raised four hundred bushels of the Weathersfield Red to the acre.

Grapes in Minnesota.—Dr. Ford, of Winona, ripened the Anna, Clinton, and Catawba there last season.

Minnesota Agricultural Society's Horticultural Committee.—Dr. A. E. Ames, Minneapolis; Alex. Buchanan, St. Paul; Richard Chute, St. Anthony; Miss Sarah Cox, St. Paul; Mrs. W. L. Ames, St. Paul.

The First Minnesota Grapery is on the grounds of the late Dr. C. W. Borup, near St. Paul. It was erected in 1859. The Doctor was foremost in introducing new fruits and flowers, and his gardener, Mr. W. Masters, is highly spoken of for his skill in adapting his knowledge to that peculiar climate.

Apples in Minnesota have not, as yet, done well,

though Mr. Snow, of Red Wing, says some have lived and borne fruit at Prescott. Hon. Eli Robinson, of Nininger, in Dacotah County, has also had trees to produce a few fruit.

The Dahlia in Minnesota is said to succeed remarkably well, and is likely to become one of their most popular florists' flowers.

Peaches in Minnesota.—Mr. Masterton, of St. Pauls, had several ripe peaches on his trained trees this fall. We believe they were protected.

The Siberian Crab Apple in Minnesota does well. Mr. P. W. Nickots, of St. Pauls, had two and a half bushels from one tree, which sold for fifty cents per peck.

New or Rare Plants.

ALOCASIA METALLICA.—A foliage plant of the Arum family from Borneo and will probably require a hothouse to bring it to perfection. Sir W. Hooker says in the *Botanical Magazine*, "that no pencil can do justice to its great beauty." He adds, that "no one in Europe but Mr. Low possesses it." We believe we are not mistaken in saying that it is already in Mr. Buist's collection, who with commendable enterprise keeps up with the novelties of Europe.

ACACIA DRUMMONDII.—Figured in *Botanical Magazine*. A pretty pinnate-leaved species from Swan River, New Holland, nearly allied to the well-known *A. pulchella*.

CALLIXENE POLYPHYLLA.—A half shrubby vine, something like in habit to our smilax, to which family it belongs; with very pretty white flowers drooping like the lily of the valley. It will be a pretty greenhouse plant.

ONCIDIUM LONGIPES.—A very pretty variety of orchideous plant recently received from Rio Janeiro.

PTERIS CRETICA.—A variegated variety of this has been received in England, that will be popular. It resembles very much the *P. serrulata* of our greenhouses in general appearance, but there is a white band down along the centre of each division of the frond. It will doubtless require the temperature of a greenhouse. It has eleven other synonyms; figured in *Hooker's Magazine*.

METHONICA SUPERBA.—A liliaceous plant, scarcely different from the well-known *Gloriosa superba*, but yet a plant of great beauty for hothouse collections. A native of Fernando Po.

CISSUS VELUTINUS.—Is a new species from the Malay Islands; nearly allied to *C. discolor*, the leaves not quite so interesting, but the flowers larger.

ANÆTOCHILUS INORNATUS.—From Ceylon. A

variety of and not quite so handsome perhaps as *A. setaceus*.

SALVIA SCABIOSÆFOLIA.—A species from Russia, with tall spikes of greenish pink flowers, and will perhaps make an interesting addition to our hardy herbaceous plants.

PHALGÉNOPSIS ROSEA.—We have before described in our journal. A recent figure in the *Botanical Magazine* shows that it is not so beautiful as the old *P. amabilis*, but it is a good addition to the orchideous collection.

THE NEW DOUBLE-FLOWERED ZINNIA.—By favor of M. Vilmorin, of Paris, we have been favored with an engraving of this new candidate for popular favor. Every one knows the structure and form of flower of the common Zinnia. Its head is a mass of small flowers, but the lower ones have the petals developed into long radiating strap shaped forms, giving the head the appearance of but one flower with a row of petals about the base.



In the present improvement the petals of the central flowers have also been developed into the ligulate shape, and the result is, as in the Dahlia, what we call a double flower. There is no doubt but that it will be extremely popular. Though it is of the same species as the one in cultivation, M. Vilmorin says he has never succeeded in obtaining seedlings with more than two rows of petals. He received the first seeds two years ago from M. Grazan, gardener, at Bagneres, who had them sent him from India.

Seedlings from these double zinnias do not all come double, but M. Vilmorin says more than 50 per cent. will; they come of all colors, from rose to violet amaranth, but he has not yet seen a double white or yellow, though there are single ones of that class.

NEW GARDEN FERNS.—40. *Gymnogramma Wetenhalliana*, Moore.—Fronds dwarfish, ramose, the branches as well as pinnæ corymbosely multifid-cripsed at the apex, bipinnate; pinnules oblong-obtuse, deeply pinnatifid, with small rather distant toothed segments; under surface pale sulphur-colored.

This plant was shown at the meeting of the Floral Committee of the Horticultural Society on the 13th of September last, and was awarded a first-class certificate as a very beautiful and distinct new crested Fern. It was exhibited by Mr. P. Kelly, gardener to Mrs. Ridgway, of Ridgmont, Bolton-le-moors, Lancashire, by whom it was raised; and had been obtained, according to information furnished by Mr. Kelly, from spores taken from a slightly crested branch accidentally produced by a plant of *G. Peruviana*, which plant had been growing in company with *G. sulphurea*. Whether or not the contiguity of these two plants had any effect on the produce, it is certain that the new form, though stated to have been raised from *Peruviana* has more of the general character of *sulphurea*, and that the ceraceous powder which gives the color to the under-surface, is intermediate in color between that found on these two well known species. The conclusion seems inevitable, that the plant is either a sport from *sulphurea*, the spores of the two kinds having become accidentally intermixed before sowing, (which might happen by the natural process of dispersion), or that it is of the nature of a hybrid. It is a remarkable fact that where two or more kinds of *Gymnogramma* are grown near together, intermediate forms not unfrequently occur among the seedlings obtained from them, and these have given some countenance to the opinion that hybrids occur among ferns.

The *Gymnogramma* now under notice, forms a dwarf spreading tuft, the fronds arching outwards from the crown, and becoming borne down over the pot-rim by the weight of the tassels, while those occupying a more central position again arch over these in successive tiers. The fronds are about a foot in length, variously branched in the stripes or rachis, as well as divided into a large spreading corymbose tassel at the end. In one of the larger fronds now before us the stripes is thus divided, and one of the divisions again divided near its base, so that there are three separate branches, each divided at the apex into a tassel, which when spread out measures 3 to 4 inches across; these tassels are densely multifid-

crisped towards the extremities, and furnished below with small pinnule-like segments. The pinnæ are again pinnate at the base, tapering to a slender rib, which is almost leafless, and then spreading out into a dense fan-shaped tuft, of an inch more or less in breadth. The larger pinnules are oblong, half an inch long or upwards, distant, blunt-ended, deeply pinnatifid, the segments being small, distant, wedge-shaped or obovate, and rather strongly toothed. The color of the under surface is a very pale sulphur, almost white. The color of the rachis is a light chestnut brown, becoming deeper-colored in the stripes. It is a very elegant dwarf-tasselled fern, and is stated to be less affected than other gymnograms by cold and damp. The name is given in compliment to a relative of Mr. Kelly's employer. T. M.—*Gardener's Chronicle*.

DOUBLE WHITE CLARKIA ELEGANS.—What shall we not have double? Vilmorins now offer a double white *Clarkia*. There has been a double rose before. Only a portion of the stamens are transformed into petals, so that enough pollen is produced to fertilize the stigma and enable the double variety to reproduce itself from seed. The seed should be sown in the open border early in April.

NEW GOLDEN STRIPED ARBORVITÆ, *Thuja Ver-vaeneana*.—Raised by Vervaeke, of Ghent.

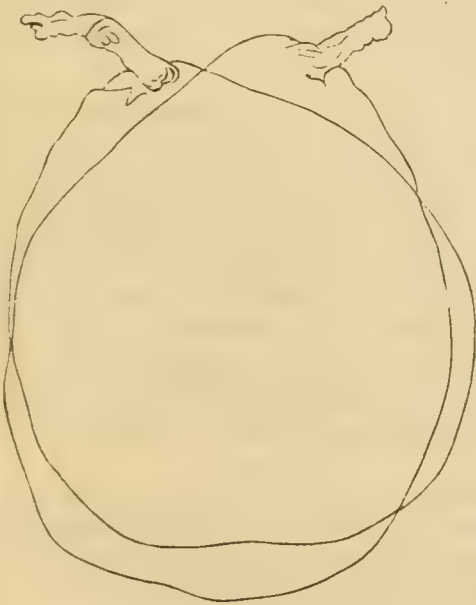
New and Rare Fruits.

GOVERNOR CHARTER'S SEEDLING APPLE.—It is of medium size, slightly and in some instances quite conical; a light yellow skin blushed with bright crimson, and covered with well defined yellow or yellowish dots. Some of the samples are slightly ribbed. Stem short, slender, deeply set in a deep narrow regular cavity, in some instances slightly russeted. Calyx closed; basin moderately deep, slightly furrowed, and open; core small, fleshy; seeds plump, small, dark brown, ovate, roundish; flesh white, cuts firmly, fine grained, tender, mild and pleasant, juicy, scarcely acid, slightly aromatic, exceedingly eatable, perfectly palatable, and at this writing, the last of October, just in good eating condition to be relishable. The beauty as well as the quality of this fruit leads us to commend it to the attention of orchardists as a market fruit. It is sought for in the market where known, and it is hardy and productive.—*Prairie Farmer*.

DRACUT AMBER GRAPE.—MANNING in *New England Farmer*.—This is a New grape, but little disseminated; origin, Dracut, Mass., from seed. It

ripened this season, the week before the great frost, October 1st, which destroyed most of the best class of grapes for table use. The fact of its ripening ten days earlier than the Concord grape, is sufficient proof of merit. It is a strong grower, hardy, great bearer, color amber, or reddish tinge, cluster large, generally compact, but sometimes loose, berries large, and slightly oval; hold on the cluster very well. It possesses the foxy character to a moderate extent. It is a good eating grape, but not equal to a well-ripened Concord or Isabella.

MOUNT VERNON PEAR.—Size, above medium, from 3 inches by 2 7-16, to 2 1/4 by 2 3/4; form, oblate inclining to pyriform; skin apparently a warm russet, but on a closer examination profusely mottled with russet net work on a yellow ground, sometimes with an orange cheek; stem one-half an inch long by three-sixteenths thick, inserted usually by a lip, with a little or no depression; calyx open, set in a narrow, superficial basin; core, rather large; seed, above medium, acuminate, plump, pale cinnamon color, with an angle on the inner edge of the blunt end; flesh, greenish-white, granular, melting; flavor, rich and vinous, with a delicate aroma; quality, "very good;" maturity, last of October and beginning of November.



This fine Pear is probably a natural cross between the Beurre Gris and Figure d'Alencon.

The above description and outline of two varying specimens we owe to the kindness of Dr. W. D. Brinkle, who, in a private note, agrees with us in

considering it probably the best Pear of the season. It is the one we referred to last month as having been raised by the Hon. S. Walker, Roxbury, Mass.

THE MOORE'S PEAR.—Has been fruited by Messrs. Hovey's and is spoken of by *Hovey's Magazine* as larger than Doyenne Boussock, and as one of the most valuable of all varieties. It was cultivated sixteen years ago by Sinclair & Co., Baltimore. The following is the description:—Minute greenish specks; stem rather short, about half an inch long, moderately stout, straight and inserted without any cavity; eyes large, open, and but little depressed in a rather small, furrowed, uneven basin; segments of the calyx short, broad, connected; flesh yellowish white, fine, melting, and very juicy; flavor brisk, slightly vinous, exceedingly rich, with a pleasant aroma; core medium size; seeds small. Ripe in September, and keeps a long time.

THE OPORTO GRAPE.—Has been recently described in the *Country Gentleman* and *Horticulturist* as a new kind of merit. The last named journal says of it: "The bunch is small, slightly shouldered; berries small, black, round, with a dark purple coloring matter under the skin; pulp firm and mucilaginous, resembles the Marion. Not a good table grape, but may do for wine."

A NEW FRUIT FROM CHINA.—Has been introduced by Mr. Fortune into England. It is a scarlet fruit, rough on the exterior like the fruit ball of the buttonwood; a stone like a plum in the centre. It is called Yang-mae by the Chinese, and supposed to be a species of *Myrica*.

CUYAHOGA GRAPE.—In our volume for 1859 we stated that specimens which we had received of this variety proved, so far as flavor was concerned, of the highest excellence. It seems to be well thought of in other localities. We annex the following description:

Bunch oblong oblate, blunt pointed, averaging four inches long, and three wide. Berries yellowish white, usually about one-half inch in diameter; skin thin and transparent; flesh sweet and pulpless.—Leaves very small, mostly three lobed, the lobes somewhat straight; the leaves very thick and leathery, and with a smooth and glossy upper surface.

It has the most distinctly marked foliage of any native grape we know.

Domestic Intelligence.

CRATÆGUS CORDATA.—Of the beauty of this kind when grown as an ornamental tree, a correspondent writes as follows. It is commonly called Washington Thorn: "The Cordata Thorn will, I think, be among

the most ornamental trees in fruit in this section of country, (Northern Pennsylvania). Tree very upright, 15 to 20 feet high; berries very bright and hold on longer here than the *Coccinea*, which on our mountains is very splendid in fruit, but here has at this time lost leaves and fruit."

A SPECIAL MANURE.—*Not Patented*.—At the Woodbury plowing match, Mr. John Daw told the following anecdote:

Having drained a field where nothing had ever grown before, I was standing near looking at a crop I had there, when a neighboring farmer came up. We had one or two loose farmers in our neighborhood; one of them, in fact, came from Woodbury, [laughter]; but that is not the man I am speaking of. He came up and said to me:

"That is a bootiful crop! How did he get it, sir?"

I replied: "Brains." [Laughter.]

"What! manure the field wi' brains?" [More laughter.]

"Yes." [Renewed laughter.]

He replied: "Goodness, yer honor, where did you get um?" [Roars of laughter.]

PEAR STOCKS.—Mr. Phoenix says in the *Prairie Farmer*:—Without having tried it (though we mean to this winter) we give the following as the practice of a New York man experienced in handling pear stocks: When pear stocks arrive, dig a trench about a foot deep and two feet wide. Heel the stocks in bottom of this trench, having a space of eight inches between top of earth in trench and surface of ground. Cover whole trench with boards and then earth to a suitable depth to keep from freezing. Soon as warm weather is like to come in Spring, graft them, tying joint with flax or soft bass bark, and *never let them dry in the least degree*, using a short root and long scion, and planting out immediately in open ground.

He also advises to plant pear stocks or grafts over trenches dug 20 inches deep, and a spade or so in width—the trenches being filled full of best surface soil, made rich with rotten manure.

RASPBERRIES.—Experience of Rev. Mr. Knox, of Pittsburg, Pa:—

He has ten acres, very densely planted with over twenty varieties. The Fastolf, Red Antwerp, and Hudson River Antwerp, do well with him, but his three favorite varieties are Brinckle's Orange, Franconia, and Improved American Black Cap. Brinckle's Orange, Mr. Knox considers the finest flavored, of large size, beautiful color, unvarying productiveness, and delicious flavor. The Franconia berry is

not so highly flavored, but is very large. Its size and color render it attractive, and ever procure for it a ready market. It is enormously productive, and continues a long time in bearing. The Improved American Black Cap is much superior to the common Black Cap. The fruit is sweet and juicy, and very large—sometimes measuring *three quarters of an inch in diameter*.

EXPERIMENTAL GARDENS.—We are glad to see that the suggestions we made in our last October issue is receiving attention. We hope some of our readers will send us their ideas about their practical management. We may have something to say also on the subject, at a future time. The following is from *Life Illustrated*:—

What shall we Plant?—The article with this title, copied in our rural department from the *Gardener's Monthly*, is worthy of especial attention. We commend its perusal to our readers, and that portion thereof which refers to experimental gardens to the notice of the managers of the American Institute.

We believe it was the intention of the founders of the Institute to have had something of this kind connected therewith, and we think it is about time to be about it. Fairs, judging from the success of the past two years, are "played out." Let us have an hundred-acre garden on the Long Island Barrens, and that, too, without delay. It will pay in more ways than one.

IVY AND DAMP WALLS.—Our local papers tell us that the oldest specimen of the Evergreen English Ivy in Philadelphia, a noble specimen, covering many hundreds of square feet, has been cut away by the owner, because "it made the walls damp." Sometimes people seem strangely infatuated. Ivy renders walls dry. The leaves prevent heavy rains from getting to the wall, and what little dampness finds a place there, is immediately absorbed by the millions of little rootlets, by which the branches adhere to the wall. The dampness no doubt originated from choked spouts, and we presume the sacrifice of the ivy will make little difference.

THE FIRST OHIO VINEYARD, was planted by Mr. Ammen, for Mr. Longworth, with the Schuylkill Grape, four miles from Cincinnati, in 1843. It is still bearing well. Vineyards of foreign vines were planted long before, but were all failures.

INTRODUCTION OF THE CATAWBA GRAPE.—Major Adlum, of Georgetown, D. C., sent it to Mr. Longworth in 1825, when Mr. L. introduced it for vinery and culture in Cincinnati.

APPLES FOR GEORGIA.—Mr. Van Buren says in *Southern Field and Fireside*, that the Sumerour, Shockley, Home, Mountain Belle, Camack's Sweet, have so resisted the heat of last summer, that while northern varieties have long been eaten, these are (end of Nov.) now sound.

SOIL AND CLIMATE OF CENTRAL MINNESOTA.—A correspondent at Minneapolis, writing Nov. 16th, says:—"I have been ploughing to-day a field of common hazel prairie, which appeared to be not less than two feet of black sandy loam, and so abundant in mould that the plough would not clean.

The heat of the summer sun is moderated by the cool breezes, which are nearly always to be felt."

THE FIRST INDIANA VINEYARDS were planted with Schuylkill Grape by the Swiss, at Vevay, in 1805.

Recipes of Fruits and Vegetables.

BAKED BEANS.—Few people know the luxury of baked beans, simply because few cooks properly prepare them. Beans, generally, are not cooked half long enough. This is a sure method: Two quarts of middling-sized white beans, two pounds of salt pork, and one spoonful of molasses; pick the beans over carefully, wash them, and add a gallon of boiling hot soft water; let them soak in it over night; in the morning, put them in fresh water, and boil gently till the skin is very tender and about to break, adding a teaspoonful of saleratus; take them up dry, put them in your dish, stir in the molasses; gash the pork and put it down in the dish, so as to have the beans cover all but the upper surface; turn in boiling water till the top is just covered; bake them with a steady fire, four or five hours; watch them and add more water from time to time as it dries away.—*Ohio Farmer*.

APPLE CUSTARD.—To make the cheapest and best every-day farmer's apple custard, take sweet apples that will cook; pare, cut, and stew them; when well done, stir till the pieces are broken; when cool, thin with milk to a proper consistency, and bake with one crust, like a pumpkin pie. Eggs may be prepared and added with milk, if handy, though it will do without. No sweetening is necessary. It may be seasoned with any kind of spice to suit the taste; the less the better.

SPINACH IN CONSOMME.—Boil the spinach in the usual manner, then roll it up into balls, and stew it briskly in veal broth well seasoned, adding enough

of nutmeg, in powder, to cover a sixpence, and a teaspoonful of Chili vinegar. Spinach dressed in this manner is an applicable accompaniment to veal or boiled mutton; with roast meat it is advisable to serve it plain.—*Flor. Cab.*

Foreign Intelligence.

FAIRCHILD, after whom so many of our old fruits and plants were named, was a gardener near London, and distinguished as the Author of the "City Gardener," a work published there in 1772.

MULCHING.—The early part of the past summer was so dry in France and Belgium, that the Market Gardeners very generally resorted to the practice of mulching with straw, kept damp by occasional waterings. This hint may be of service to some of our California readers.

GRAFTING THE CARNATION.—Fine double varieties of the Carnation are easily propagated by cleft or side grafting, on common or single stocks, they can also be grafted on the *Saponaria officinalis*, the 'Bouncing Betsy' of American door-yards, by taking pieces of the root about one inch long, and from one-third to one-half an inch in diameter, preserving as many of the fibres as possible. Then take a branch or shoot of the Carnation about six or eight inches long and graft it by side grafting on the side of the piece of root at the upper end. The best time for doing this is about the middle of May. Plant them close together and cover with a bell glass. No bottom heat is required.—*Guide du Jardinier fleurist*.

SEVERE FROSTS IN SAN JOSE.—Frosts have been unusually severe in this section the present year, more so than they have been for the past eleven years. On the 7th September it was so cold that ice made to the thickness of half a dollar. The cold continued three days and nights. As an evidence the mercury fell to 38° inside a greenhouse.—*California Farmer*.

DOUBLE CONVULVULUS.—Mr. Beaton says in London *Cottage Gardener*, that *Calystegia pubescens* is the only double variety of Convolvulaceous plant known.

This is a mistake, Messrs. Loddiges, of Hackney, near London, once had in their collection a double variety of *Ipomœa panduratus*, and the same variety still exists in some American collections.

FERNS.—"They are destitute of flowers and fruit

and yet they please; there is nothing brilliant or dazzling about them and yet they charm, we admire them as we do a modest virgin, who hides her charms under the veil of innocence.—*L' Horticulteur Praticien*.

CULTURE OF SOLANUM CAPSICASTRUM.—The following detail of my success in cultivating this beautiful biennial plant may be useful to many of your correspondents.

In January last I sowed the seeds in pans, placed them in bottom heat, and kept them there till the plants were large enough to be removed into thumb-pots. After this they were placed in a warm pit, kept near the glass to keep them from drawing up till they had filled their pots with roots. I then shifted them to four-inch pots, plunged them into sawdust up to the rims of the pots: they soon made very vigorous growth. I applied water by the syringe daily, as I find this plant very subject to the attacks of the red spider.

At the beginning of April I was obliged to re-pot the plants again into six-inch pots, plunging as above, and still keeping the syringe at work till the plants showed well for blooming, which was in June. While in bloom I kept them free from syringing, and at a much higher temperature till they had set their fruit. I then re-potted them in eight-inch pots, in good, rich turfy loam, with plenty of leaf mould and sand, and kept them watered with weak liquid manure, and well watering them with the syringe morning and evening till the berries began to color. I then removed them to a warm greenhouse, stopping all the points except the leading shoot. The plants are now nearly eighteen inches high and fourteen inches across, with from forty to fifty berries on them, and by the end of next month I hope to see all the berries quite ripe. They will then have a beautiful appearance. I know no plant, with the exception of the *Ardisias* for decorating purposes, that has so seasonable an appearance at Christmas time as the *Solanum capsicastrum*.—*THOS. RAWBONE, Gardener, Barlaston Hall.—Cottage Gardener.*

THIRTY THOUSAND APPLES ON A SINGLE TREE.—

Wm. R. May, of Pomfret, (Ct.,) picked forty bushels of apples from one tree. He had the curiosity to count the number of apples in one peck, and found 190, making 760 in one bushel, and 30,400 apples grew upon the tree.

HOT HOUSE GRAPES.—Mr. Ayers, a distinguished British gardener, says in the *London Gardener's Chronicle*:—

Looking through the Grapes at present in cultiva-

tion, it appears that all purposes of a regular supply will be attained with the following varieties:—White—White Frontignan, Golden Hamburg, and Charlsworth Tokay. Black—Black Frontignan, Welbeck Black Tripoli, Muscat Hamburg, Mill Hill; and for late work, Lady Downe's Seedling, Oldaker's St., Peter, and Burchardt's Prince. If more Vines were required I should rather duplicate with some of the best of the preceding than plant a larger number of kinds.

NEW PAPER PLANT—*Hibiscus Esculentus*.—The French have found the fibre of this equal to hemp for coarse linens, and are introducing it extensively into Algiers. This is the okra of our Gardens, and it might at any rate be worthy of notice by our paper manufacturers. Many of our swamp species might be turned to useful account.

GAZANIA RIGENS, and *G. splendens* are highly spoken of in English journals, as bedding-plants. If our summers do not prove too dry for them, as we think probable, they will prove very showy acquisitions. The two kinds are often confounded, but are very different, the former has incised or toothed leaves, the last quite entire.

PROFIT AND DURABILITY OF POT VINES.—A writer of the *London Florist* writes on Early Grapes, in which the writer states that as, according to the general practice of fruiting Vines in pots, whereby a fresh supply of fruiting plants is required yearly, pot growing is not at all an economical system, whatever other advantages it may possess. "I determined, therefore," says he, "some years back to see how long I could fruit my Vines so as to pay, in the same pot; and having succeeded much better than I anticipated, I beg to state my practice." This consists in taking the plants in August for next year's fruiting, shift them from twelve to eighteen-inch pots; some in eighteen-inch square boxes also, and allowed to grow on the rest of the season. Nothing is done differing materially from the ordinary routine of forcing. When the fruit is cut, the Vines are allowed to remain a few weeks in the house, keeping the plants and foliage clean by syringing, &c., and giving manure water occasionally. By these means (taking the Grapes to be cut by the commencement of May), the wood is well ripened, by the middle of the month the boxes are placed out under a south wall or paling, where they remain till the end of August, after which they are shifted under a north wall for wintering; and they are allowed to receive the rain, &c. By the end of October they are transferred to a dung pit, in order to swell the buds, and in November taken into the

fruiting-house, the wood being previously pruned back to good prominent eyes. Such Vines are found to break much more freely the second year, and produce larger berries and bunches, ripening also near a month earlier. When placed in the fruiting-house, a little top-dressing of fresh compost is given, and a thick turf put beneath each pot, into which the roots afterwards find their way. The Vines produce on an average nine or ten half-pound bunches of first-class grapes, which, at the end of March, is no bad work. As they cannot safely be removed from the house earlier than the end of May, they have all the air they can, and are syringed daily, to keep the foliage clean. When removed, the roots sent into the turf are cut clean away, and manure water is given through the summer. The third season's practice is the same as the preceding. By pruning to good plump buds, a crop of good quality is certain, which colors well, and is free from shanking. The Sweetwater, Muscadine, Chasselas Musque, and Frontignan, are generally worn out by the third year. Hamburgs will occasionally last four or five years, but then a good deal of soil will require to be renewed. Keeping plants beyond the third year is not, however, advocated.

FORCING ASPARAGUS IN THE OPEN GROUND.—M. Joigneaux in his excellent treatises on *Culture maraichere* or market gardening, gives the following very simple mode of forcing asparagus:

"Dig a trench about two feet wide and about twenty inches deep around your old asparagus bed, fill it with hot stable manure with some oak leaves mixed with it; the manure should be heaped up about six or eight inches and well trampled, then place boards on edge all around the bed outside the trenches, securing them with stakes driven in the ground. These boards should be about the same height as the manure, forming a kind of curb all around the bed, then lay across the bed, resting on the boards on edge and on the manure, some old boards, doors or rails and on these straw, litter, leaves or pine "shatters" to keep out the frost. In fifteen days the asparagus shoots will make their appearance.

Asparagus can in this way be forced at any time during the winter, but it is less injurious to the plants or roots to defer it until about the first to the middle of February, so that when the crop is cut the bed can be uncovered and the plants to have an opportunity of completing their growth.

THE GREEN ROSE.—The Bengal *verte* or green Rose, according to the *Gardener's Chronicle* is one of the latest novelties in England. It says it "was first introduced to the world" in 1856, by Pere &

Clement of Lyons, France." We do not know who originated the green China, but it has been in the collections of most American Rose-Growers the past twelve years at least. The *Chronicle* suggests that it might make a good breeder. If scarlet and yellow could be introduced with the green, it would be valuable.

THE JAPAN BURDOCK is the name of a new vegetable introduced from Japan by M. Siebold. Its roots resemble in taste the Artichoke, and attain a weight of a quarter of a pound.—*L'Hort. Praticien*.

BLACK CURRANT WINE.—Under the name of *Liquor de Cassis*, is being produced to a vast extent, superceding the vine in many districts of France. There are between one and two million plants cultivated for wine-making near Dijon, producing from this town alone near two thousand gallons of wine annually.

HOT-HOUSES BY THE ACRE is the newest idea started in England. It is proposed to cover whole vegetable and fruit gardens, with glass, one single mammoth house, the roof to be on the ridge and furrow principle.

NEW ENGLISH WORK ON FRUIT, by Dr. Robert Hogg, the *Fruit Manual*, is highly spoken of by the English papers as a work of great excellence.

CUPRESSUS MACROCARPA and *C. Lambertiana*, Beaton says, in *Collage Gardener* has been raised in Kew from the same seed, and are of course to be considered, therefore, as mere varieties of each other.

OFFICE OF THE SEED OF PLANTS.—Dr. Daubeney, a distinguished English Philosopher, supposes that the office of the seed is not to ensure the perpetuity of the race, but to provide for endless variety. He contends that one of the simplest modes of insuring continuity of individual forms would be by buds and offsets naturally, as we increase the Weeping Willow by cuttings; but by sexual contact of individual plants with one another, no two broods result exactly alike.

A better means of disseminating the species, and of producing endless variety of form, he considers the true office of the seed, and not that it is peculiarly "the most natural mode of propagation."

HORTICULTURE IN FRANCE.—The *Scottish Gardener* says, so great is the attention the French Government has bestowed on horticulture, that it believes at no distant day France will become the garden of Europe.

Horticultural Societies.

NEW HAVEN LECTURES.

Horticultural lectures to commence Tuesday, February 5th, and continue throughout the week.

AMERICAN POMOLOGICAL,	M. P. WILDER.
PEACHES,	P. R. MEAD.
GRAPES,	DR. GRANT.
ORNAMENTAL AND EXOTIC GARDENING,	S. B. PARSONS.
PRUNING AND TRANSPLANTING,	P. BARRY.
PROPAGATION,	THOS. HOGG.
TREES AND FLOWERS IN CITY YARDS,	R. G. PARDEE.

Other subjects by other lecturers.

SECOND WEEK

THIRD

FOURTH

SCIENCES.

AGRICULTURE,

DOMESTIC ANIMALS

During the fourth week, four lectures on the subjugation and cultivation of the horse, with demonstrations on two living animals. For further particulars address, JOHN A. PORTER, NEW HAVEN.

MAURY CO. (TENN.) HORTICULTURAL SOCIETY.

We have received the Annual Address of M. S. Frierson, Esq., President of the Society, from which we learn that the enthusiasm manifested at the commencement of the Society's existence has cooled somewhat. The President, however, is determined that "there shall be no such word as fail" in its ultimate success, and after addressing Tennesseans that of the many popular fruits raised in the North, the South and West, not one has the honor of having originated in Tennessee, he makes the following liberal proposition:

"As an evidence of my earnest solicitude for this enterprise, I place under the control of the Society, whenever necessary, the sum of one hundred dollars, to be awarded as premiums.

"1st. Twenty-five dollars for the best new seedling Peach, of superior quality and flavor to any now grown in the State, and of large size.

"2nd. Fifteen dollars for the best new seedling Apricot of superior quality and flavor to any now cultivated in the State, and to be at least of medium size.

"3rd. Fifteen dollars for the best new hardy seedling Grape of like quality and flavor, of fair size, and fit for out-door cultivation.

"4th. Ten dollars each for the best seedling Currant and Gooseberry, adapted to cultivation in this latitude and of fair size.

"5th. Ten dollars each for the best new seedling Raspberry and Strawberry, of superior quality, flavor and size, to any now in cultivation.

"6th. Five dollars for the best new seedling Rose of merit.

"From premiums are to be awarded to members of the society, or to those who may become such by the first of May next. President and Directors, or such judges as they shall select, shall award said premiums, after allowing ample time for growing trees and maturing the fruits and flowers."

Mr. Frierson's public spirit will be warmly seconded, and that other parts of Tennessee will find imitators in the laudable ambition to elevate the horticultural character of the State.

HORTICULTURAL SOCIETY AT HANNIBAL, MO.

We learn that the preliminary steps have been taken for a Horticultural Society as above. Both the fruit-growers and fruit-consumers of that enterprising city will find such a Society, properly conducted, greatly conducive to their interests, and all should take a lively interest in it.

FRUIT-GROWERS' SOCIETY OF EASTERN PENNSYLVANIA.

The Executive Committee of our Society met, a few days since, and decided to hold the next meeting of the Fruit-Growers' Society of Eastern Pennsylvania in Reading, Pa., on the FIRST WEDNESDAY OF FEBRUARY, 1861, which will be the Second Annual Meeting.

JOS. B. GRAY, Secretary.

POMOLOGICAL CONVENTION.

NOTE BY MR. LYON.

With the constant noise from the street, and the consequent difficulty we all had in understanding properly during the recent Pomological Meeting in your city, it is not surprising that errors

should occur in your report of its proceedings. Permit me, while writing, to make a few corrections that occur to me:

At the foot of page 6 I am made to say of Cogswell or Farnwaller,—"My trees bore well, and the fruit is coming into great favor in our State; they are in demand and are sold at good prices." This I could not have said, as my acquaintance with neither of the varieties would warrant such a remark. I think something of this kind was said by another person.

On page 10 you say "Early Joe was not added," while by looking to the list on page 36 we find it among the recent additions, which accords with my impressions.

On page 10, second column, I am made to say, in speaking of the Bonum Apple, "Specimens I saw two years ago were very beautiful." What I said was, "that the specimens I then saw were much larger than these."

On page 11, I am made to say "I received, &c., (see report.) The fact as stated was that I recently received specimens of an apple from Southern Michigan which was apparently the same as this, and which came to this State some years since from Kentucky, by way of Indiana.

On page 14, "Pound Royal" should be Poinne Royal, as Pound Royal is another and a distinct variety.

On page 20, gooseberries "Martin's Seedling," should be Mountain Seedling of Lebanon.

On page 22, second column, my closing remark should be—Its correctness to name could not, of course, be vouched for. This remark applies to the Clara grape. On the same page, in speaking of Fo Kalon, as to its liability to mildew, I merely said I had seen no signs of mildew.

On page 23, in speaking of the Emily grape, I stated that I had received a plant which proved to be worthless instead of "worthy."

On page 27, in speaking of the flavor of the Sterling Pear, my remark was that it was too sweet for many tastes, or words to that effect.

I send you the above corrections, in accordance with your suggestions. But I am by no means strenuous as to their publication. Most of the errors are of such a nature that readers will readily infer that they must be such. You will therefore exercise your own discretion as to their insertion.

[The above reached us too late for our last summary. We differ with our friend as to the importance of correcting the "trifling errors." We wish to claim for our work the reputation of standard accuracy, which can only be obtained by careful corrections of "trifles." We are obliged by the trouble he has taken to set us right.—Ed.]

MEETING OF THE OHIO POMOLOGICAL SOCIETY.

AT CINCINNATI, JANUARY 10TH AND 17TH, 1861.

The past season having been unusually favorable for fruit crops, has awakened fresh interest in the public mind on the subject of Pomology. It has been a year of real progress in horticulture, much new and valuable experience has been gained, and many new fruits have been tested for the first time. It is important, therefore, that we should come together and freely communicate to each other, and to the public, the results of our observations and experiments.

The meeting has been appointed at a season of comparative leisure, and in the midst of a community of much intelligence and zeal in horticultural pursuits; so that a large attendance and much interesting discussion may be confidently expected. A cordial invitation is extended to fruit-growers, nurserymen, amateurs and all interested residents of other States, as well as of Ohio, to meet with us and participate in the discussions.

Specimens of choice fruits are also solicited for exhibition at the meeting—especially of winter pears and such apples as are not generally known. Packages of fruit for this purpose, may be forwarded by express, care S. W. Haseltine & Co., Walnut Street, Cincinnati. The meeting will be held in the Room of the Horticultural Society, corner of Sixth and Walnut Street. By order of the Committee. M. B. BALLEHAM, Sec'y. COLUMBUS, 1860.

HINTS FOR FRUIT GROWERS' SOCIETIES.

BY J. B. GARBER, COLUMBIA, PA.

As the Second Annual Session of the "Fruit Growers' Association of Pennsylvania," will be held at Reading, on the first Wednesday of February, 1861, (Feb. 6th.). I desire to throw out a suggestion, and would be pleased to see it acted on. Last February, at Lancaster, your friend, Mr. Crans, of Mount Airy, near Germantown, set a precedent well worthy of imitation, and to be continued. He brought with him a large lot of "eyes" for gratuitous distribution, of a very promising new Grape—the "Maxatawny." I would like to see so noble and worthy an example, generally followed by the member and visitors, who may have any valuable new varieties of fruits in their possession. At least those who do not care about making a speculation out of it.

[We have headed Mr. Garber's communication with a general application, as we consider the suggestion in every way a happy one.—Ed.]





GRAND ADMIRABLE PEACH.

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, Editor.

FEBRUARY, 1861.

VOL. III.—NO 2.

Hints for February.

FLOWER GARDEN AND PLEASURE GROUND.

THOSE who are skilled in what we would term the science of Landscape Gardening, tell us that the effect of any effort in the art is to be judged by its expression. As this is particularly the season of the year when improvements are in progress, it should not be forgotten that,

"To him who in the love of nature holds
Communion with her visible forms, she speaks
A various language."

and also, one which he well knows how to interpret and understand. Whatever the improver does will speak not only for or against his taste, but will be perpetually talking to him in his various moods, and expressing thoughts and opinions to others of which, perhaps, even he himself had never dreamed. "Ye may know a man by his garden;" not only what he is but also what he is not, and what he might have been.

We have in our eye a pleasant spot, at least one which might be a pleasant one. As you pass along the highroad you see a splendid lawn, noble trees, and through them you occasionally get a glimpse of a fine old mansion, appearing finer than it really is by the full view being partially broken by the trees. But though the well kept lawn demands your applause, and the grand evergreens and deciduous trees cannot fail to win your veneration,—there is no warmth of feeling experienced for the place as a whole. Something is wanting. There is no expression of life; you can with difficulty realize that any one lives there, or if the house contradicts your feelings, it must be that it is inhabited by some hermit, who in disgust with the world and the "rest of mankind," has shut himself up to meditate on his own sins and unworthiness, and tells you that he desires none of your company. All this results from having the carriage-road on a bye lane, because "we must not think of cutting up our beautiful green front." It is a great mistake. The carriage-road, or at least its entrance, should be the most prominent object of approach. No place is complete without it, and the

sacrifice of a portion of our friend's "green front" to affect it, would be a greater proportionate gain to the whole effect.

In our last we gave some suggestions for road making from the experience of the New York Central Park, which is worth referring to. The operation of water on roads requires careful study on the part of the inexperienced. As much as possible of surface water should be carried over the surface, wherever it is possible by turn outs, and wherever there is danger of heavy washing; otherwise it may be carried under the surface by drains, with silt basins attached to collect the materials washed in by rains, that would otherwise choke the drains. Broken stone should be laid as close to the surface as possible, and no more gravel employed than will fairly cover the stones.

In all permanent improvements attempted on grounds, draining should occupy a prominent position.

Drains are laid often in so that they cannot act, or soon become inoperative, when the report arises that "so-and-so expended vast sums on draining, and it has done no good." The bottom of the trench prepared for the drain—tiles, bricks or stones—should be dug to *one regular grade*. If one part of the drain be on a lower grade than the rest below it, dirt will lodge there and choke it; water will rise to its own level, and all escape, except what is in the low grade, but the earthy matter will not—it will all stay there. The eye can never be depended on in a grade: grading pegs should always be employed; after the drain is laid, shavings, or something like it, should be placed thickly over it to prevent the soil from working its way in. By the time that rots the soil will have become compact. A drain like that will do good and be lasting.

Very few places realize as much pleasure as they might, by the absence of flower-beds. In proper positions they have a grand effect. Masses of flower-beds appear to best advantage when they are looked down upon either from a mound-terrace, or elevated window. The following is a sketch of one, in which the writer has set out many a flower in his boyish days, and it was always looked upon as a very pretty design.



The centre is made higher than the sides, and in the case we allude to, had a sun dial in the centre, though we think it was out of place, and a basket or vase of flowers, or a circular flower-bed would have a better effect. The walks or spaces between the beds were made of small pebbles, about the size of hen eggs, and for borders pieces of slate set on edge were employed, rising about half an inch above the pebbles. The whole mass of beds, outside of the imperfect circle which they form, was set in grass. In the design which we give, there are but four beds, but any number can be made on the same principle, 5, 6, 8, etc., according to the space to be occupied. Every bed should have but one kind of plant to look well, and the colors should be carefully matched. In the days we speak of, we had but two verbenas, the Scarlet Melindres, and the White Teucroides, but now a splendid selection of colors might be made of verbenas alone. We commend the subject of selecting classes of colors of verbenas for such purposes to Mr. Snow, the verbenaman.

While care is bestowed on preparing beds for flowers in masses, we would not have our friends forget the borders for hardy herbaceous plants. Besides the merit of taking care of themselves, for they require no further care than taking up every second year or so, and replanting, they afford a varying interest with every month in the year. We give a list of six good ones, for flowering near each of the months annexed. April—*Iberis sempervirens*, Double Daisy, Phlox, subulata, Dicentra, spectabilis, Snowdrop. The Forget-me-not or *Myosotis palustris*. May—*Polemonium reptans*, *Omphalodes verna*, *Funkia abbe*, *Geranium sanguineum*, *Fraxinellas*, *Aquilegia Canadensis*. June—*Achillea Tomentosa*, *Dodecathron Mendia*, *Funkia cerulea*, Iris of sorts, *Lychnis fulgens*, *Pentstemon*

rosea. July—*Zauchneria Californica*, *Wahlenbergia grandiflora*, *Spiraea Japonica*, *Potentilla atrosanguinea*, *Lychnis Chalcedonica*, *Campanula persicifolia alba*. August—*Achillea Ptarmica*, *Clematis revoluta*, *Chelome barbata*. *Delphinium formosum*, *Lythrum salicaria*, *Liatris spicata*. September—*Sedum populifolium*, Double Dwarf Sunflower, *Anemone Japonica*, The Lilies, *Dracocephalum Virginicum*, Asters. There are besides a great many other beautiful species, and which others might think even more beautiful than those we have named, but these will at any rate form the nucleus of a good collection.

FRUIT GARDEN.

In those latitudes where all danger of frost is over, grafting of trees will be in order. There have been few if any new ideas or improvements advanced on this head for years past, that would call for special note from us. We might perhaps suggest that where branches are wanting to make perfect trees, the vacancy may be filled by a graft. If, however, this be low down in the tree, there may be a difficulty in getting the shoot to push vigorously, through the stronger top branches robbing it of its proper supply of nourishment. Cutting a notch above the graft, into the old wood, is the best way of ensuring the strong breakage desired. Very often indeed, this notching is all that is required to force a bud to grow. In selecting scions for grafting, be very careful that the scions have not been injured through the winter. Many failures, in Cherries especially, result from this cause. Most parties cut off their scions before severe weather sets in, and are safe; where this cannot be done, or has not been done, choose the lower parts of the shoot of last season's growth for the scion, rejecting the extreme points; these always suffer most. The operation is rendered safer. Short scions are better than longer ones; it is best, however, to have two buds to each, in case of accident to one; where the bud is required to make a straight leader, one must be taken out as soon as it is clear that the one left is secure from ordinary danger. In grafting, it is the cells at the extremities of what are termed the medullary rays, which terminate with the wood growth of last season, that most readily unite. These two portions or as it is sometimes said the "inner bark" must consequently altogether coincide to be certain of success. The layers of wood of last year's growth are often much larger or smaller than that of the stock, and to make the connection of the proper parts the more certain, it has been found beneficial in practice to lean the scion a little from the perpendicular, so that the base is a little in, and the top of the scion a little out from the line of the stock; a very little is enough:

by this a portion of the two parts are certain to cross each other.

VEGETABLE GARDEN.

THERE is nothing so acceptable as early vegetables, and one of the most useful aids to this is a hotbed. Every amateur should have one, as every well regulated horticultural establishment regards it as one of its most essential features. Not only is heat generated by manure more favorable to vegetation than that from any other kind of heat usually applied, but the manure itself, after being so employed, seems better than that preserved any other way. We would sooner have one load of hotbed manure for horticultural purposes, especially for pot plants generally, than two of the same kind of manure that had not been so employed.

To make a hotbed, long stable manure should be used, and if it can be turned a couple of times, before heating violently each time, before permanently using, the more regular will be the heat in the bed and the longer will it last.

A south-eastern aspect is best for a hotbed, and it should be well sheltered from winds on the cold quarter.

If the ground is dry, the soil may be dug out about a foot in depth, but for very early forcing it is best to have the whole above ground, as when sunk, the cold rains or thawing snow collects in the pit and cools the materials.

The foundation for the hotbed should be about eighteen inches wider than the frame to be set on it when finished, and the manure regularly laid on till about the height of three feet has been obtained, when the frame may be set on. It is not well to tramp the manure too heavily, or the heat will be too violent. Sometimes the manure is very "strawy," in which case it should be watered with drainage from the manure heap, or the heat will be "a good time coming," when it would be very inconvenient to "wait a little longer."

When the manure and frame are both fixed, a half inch of soil should be thrown over the manure under the sash to absorb the gross gases that would else be too strong. For a few days after, the heat will be too violent, but when the thermometer indicates a temperature of 90°, operations may begin; but the usual aim is 70°. When the bed shows signs of getting below this, linings of stable manure must be applied round the frames, one and a half feet thick, and if boards, shutters, mats, or any similar material can be spread over these linings, the heat will be maintained much longer.

Having secured the hotbed, Dahlias, Annuals, Cucumbers, Tomatoes, Peppers, Egg-plants, and many other interesting things can be started, by which

we may get several weeks ahead of our neighbors in the enjoyments of vegetable luxuries, and when done with the bed in May, it will be the very place for gloxinias, achimenes, and many other beautiful house plants which delight in a warm moist heat.

A great deal of difficulty is often experienced in keeping up a sufficiency of heat in cold weather,—and every care should be taken to prevent a loss of heat. Straw mats, and bast mats, and other contrivances, are employed to throw over the glass during the night, and even warm manure, when a night of extra sharpness is anticipated. There is nothing that requires more skill than to conduct a hotbed well, and yet nothing that is perhaps more satisfactory than it is when entirely successful.

PLANTS AND PLANT HOUSES.

THE beauty of the Pelargonium is to have it dwarf and stocky, with thick-set shoots, and bold healthy foliage. To our mind there is not a more beautiful object than a really well grown Pelargonium. To be kept near the glass—to never be allowed to get dry—to be kept clear of insects, and to have a rich soil, plenty of it, and manure water occasionally, is the real secret. Calceolarias are also fine objects in good hands. They also must be kept near the glass, and manure water helps them after they have once began to grow freely. Chinese Primroses must not be over potted, unless very healthy, or they will be liable to damp away altogether. Gloxineas and Achimenes may be potted for the earliest blooming plants. Fuchsias should be cut down, and started if fine specimens are wanted; and after they have pushed a little, shaken out of their pots, the old balls reduced, and encouraged again to grow with new soil.

Where very vigorous plants are not required, they may have only the side branches cut in. Lantanas are becoming popular pot plants, and should be headed in—the same manner as Fuchsias. Any Ferns that may seem to be approaching their fruiting season, which is known by the ripening of the spores on the back of the fronds, should be repotted into new soil for a fresh growth. We need scarcely observe that partial shade and moisture are essential to the fern tribe. Where no hotbeds are at hand, the next best thing for flowers is to sow in pans a few Phlox, Mignonette, and other things that it is desirable to have early in the greenhouse, by the end of the month. Camellias and Azaleas are about commencing growth, and now is the time to prune and re-pot them if they require it, which starved and stunted growth usually indicates. As to the proper soil for potting; we can only say in a general way, that it is best for the amateur to use

the soft spongy soil, full of dense masses of fibrous roots, that usually forms the surface of old woods, as the basis of all his potting operations. Skill and observation only will teach him how he can improve it by special agents, till at length he can tell what degrees of various soils he can employ to make a compound or compost, that shall exactly suit any of his floral pets. After that he may get up bins in his potting shed, and have as many various soils ready for mixing as there are drugs in a Doctor's shop. These horticultural apothecaries are often laughed at by the generalizers of the art; but we must do them the justice to say that we never knew one of them who was very successful with any particular thing he grew, and had achieved fame and reputation therefor, that could not tell you to a pound, the various soils he had separately mixed together to form his compound.

Communications.

SEPARATE OFFICES OF TAP ROOTS AND SURFACE ROOTS.

BY H. C. B., PAINESVILLE, LAKE CO., OHIO.

In *Gardener's Monthly* for December, page 374, you remark, "It has even been suspected and with much reason, that all roots of any considerable depth beneath the surface do little else than supply moisture."

I fully believe the remark is true. Let me give you a fact which suggested the idea that there were roots whose sole or principal office is the absorption of water. This village is situated on one of the ridges which extend along Lake Erie parallel with its shore. On all these ridges the soil is a warm, friable sandy loam of very fair fertility, not at all retentive of water, and very easily penetrated even by the most delicate roots. Grapes succeed here admirably without underdraining or subsoiling.

Our soil is underlaid at a depth varying from two to six feet by gravel, which extends downwards to the clay from twelve to twenty feet.

The water of our wells is from the stratum of clean gravel lying next above the clay. My own well is eleven feet deep with two feet of water, bringing living water within some nine feet of the surface of the ground.

Five years since, I constructed a cistern, for which I made an excavation nine feet deep; near one side of this excavation stood a well-established Catawba grape vine, and at eight feet below the surface the workman noticed, in the wet gravel, almost within reach of permanent water an abundance of white, tender, porous roots which I traced upwards towards the vine, to which they unquestionably belonged. The gravel, clean and wet, as if washed, among which

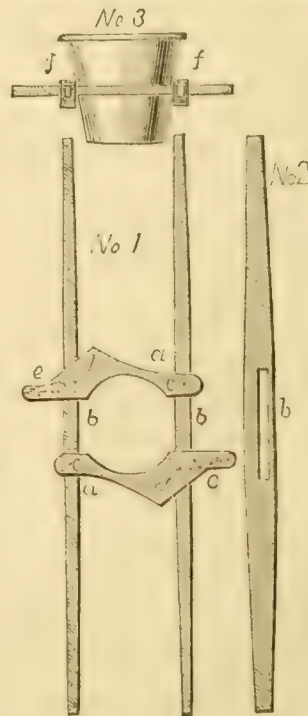
they were spread, could scarcely have afforded them anything but water, and they were, in my opinion, mere absorbents of water.

Our vines never seem to suffer from drought, and I have an idea that in our soil these absorbent roots penetrate till they reach water. The excavation was made in August. It is possible that one signal benefit accruing to the vine, from the very deep trenching so strongly insisted on by grape cultivators, is due to the ease with which the roots penetrate the soil deeply in quest of moisture.

SHEPARD'S POT CARRIER.

BY MR. JAMES EADIE, PHILA.

THIS is a very simple contrivance to carry large pots of flowers or plants. It consists of two common hand spikes, in this case about 6 feet long, $1\frac{1}{2}$ inches thick, and $3\frac{1}{4}$ inches wide, with a slit or mortice in the centre through the side to receive freely the cross or tie pieces, and two—what I will call the pieces, being boards 1 inch thick and wide enough to be strong, with one end fastened with a pin or bolt so as to work on a pivot in the mortise of the hand-spoke; the other end made with a bevel of about 40 degrees, or enough to close the tie pieces as fast as the hand-spikes are closed; then a pin on the



outside of the hand spike put through a hole in the tie-piece fasten the whole together; the end of the

mortise is made to fit the bevel of the tie piece so that the pressure of the pot cannot push it back. To take it off of the pot you draw out the pin from the hole on the outside of the hand-spike and draw the tie piece out of the mortise. The pins are fastened to the hand-spike by a string or chain so that they cannot get lost. The curve or circle in the tie pieces need not fit the circle of the pot exactly, but may be about a medium of what is intended to carry; if intended to carry from ten to eighteen inch pots, the curve might be seven inches wide or fourteen inches diameter.

DESCRIPTION OF FOREGOING CUT:

No. 1 shows the manner the tie pieces lie in the mortise; *a. a.* are the two ties; *b. b.* are the mortises; *c. c.* are the permanent pins; *d. d.* are the pin holes to hold it together; *e. e.* are the closing slides.

No. 2 is a side view of the hand-spike showing the size of the mortise.

No. 3 is a cross view showing the manner of catching the pot; *f. f.* are the two pins holding the hand-spikes together.

THE ALLEN RASPBERRY AGAIN.

BY L. F. ALLEN, BUFFALO, N. Y.

In your January paper, the Committee of the Eastern Pennsylvania Fruit Growers' Society say they meant no personality or charge of deception—that is the gist of it—on my part, but simply an "error" in sending out *other* plants than the "Allen" raspberry to the public. In my remarks in the December number, I did not mean to say that they had charged me with "deception." But whether my plants were wrong through *error* on my part, or *intended* deception, the consequence to the receiver of them would be the same, to wit: A different thing from that or those which he expected to receive instead of the genuine.

My reply that I did not cultivate any other raspberry plants than the "Allen" and "Red Prolific," and therefore could not and did not send out any other varieties, which I here repeat, ought to be sufficient, so far as I am concerned. But "the Committee" now meet that disclaimer, with the assertion of Mr. Freas, of the *Germantown Telegraph*, that he got plants from me for those two varieties, neither of which were the "Allen," and that after proving them so, and worthless, to boot, he threw them out. Now is not Mr. Freas mistaken as to the identity of his plants?

If I am not mistaken, a pomologist in one of the interior counties of Pennsylvania, soon after my plants went into the vicinity of Philadelphia, asserted in the *Germantown Telegraph*, that he had the "Allen," or a raspberry like it, in cultivation, which had been in his grounds for some years, and proposed growing

them side by side to compare them, or something of the sort. I did not keep the copy of the *Telegraph* containing this notice, which Mr. Freas was kind enough to send me, and cannot now state the least particulars. I simply wish to ask "the Committee" the question, whether or not, Mr. Freas had any *other* raspberry plants from any other person, and cultivated them at the time he had the "Allen" in his grounds? If so, could he not have got them intermixed or confused, one for the other?

The "writer" of the committee's report says, "that he examined the two varieties of raspberry plant which Mr. Freas received from me, and that neither of them was the Allen, 'to a certainty.'" Here is a contradiction—point blank—no mistake about it, so far as the committee and Mr. Freas are concerned on one hand, and myself on the other. "A question of veracity," as gentlemen of punctilio would have it. How is the fact to be settled? Either Mr. Freas must have been mistaken as to the identity of the plants he received from me, or the gentleman of the committee who examined them was not an accurate judge of what the "Allen" raspberry is, or I committed an *error* in sending out a variety of plant which I did not grow and did not have in my possession, and which it was impossible for me to send out, as I sent out no others than the two varieties which I did grow; or, further, the package got changed on the way to Philadelphia.

I intend no *personalities* towards any gentleman; on the other hand, the parties are personally unknown to me, and I can entertain no other sentiment towards them than those of entire respect, such as their position in the community entitles them to. Thus I leave the whole subject.

As to the "hardiness" of the "Allen" variety, and the Red Prolific also, I have had several thousand plants of them both standing in my grounds, *unprotected* through the winter, for eight or ten years past, and never, to my knowledge, lost a single cane by the frost or cold weather; my latitude is a few minutes less than 43° north. BLACK ROCK, February 1, 1861.

LANDSCAPE-GARDENING.—Contracting.

BY GEORGE WOODWARD, NEW YORK.

THE execution of landscape work by contract is one of those subjects that will bear further discussion. Though it has been pretty well handled on all sides, yet, so far, without a satisfactory conclusion, the arguments advanced against such a manner of doing work, to our mind, have no application whatever.

It seems to be a necessary requirement among many who cannot give their whole attention to the improvement of their country homes, that, as a matter of economy to themselves, the contract sys-

tem should be, to some extent, adopted. Like every thing else, it has its defects; but it has also some strong recommendations.

The laborer working by the day has no ambition or study above earning his wages with the least amount of work. No matter what may be his ability or intelligence as compared with his fellow-workmen, he is ranked as low as the dullest and slowest of them all. It is presumed they are equal in all respects; but such is, by no means, the fact. There is no doubt but that a very much larger quantity of work might be done in a given time, if the incentive to do it was governed by the amount to be done. A man will work harder for himself than he will for another; and if his intelligence and ambition are excited, there is to him a new interest in his pursuit.

The supposition, however, that any man can be a contractor, is an erroneous one,—it is a calling that requires intelligence and experience. The contractor who proposes to execute landscape work should be educated to his business. Those who contract for masonry or carpenter work are those who fully understand what they are about.

The prevailing notion that the lowest bidder is the cheapest is scarcely realized in practice. Those who expect to get work done below its fair value, will reap some disappointments. Those who propose to do it for less than it is worth, intend in some manner to deceive. Contractors' prices may vary, however, from many circumstances. One may have better facilities in the way of horses, carts, men, means of living, capital, &c., and thus be able to work cheaper, or when times are dull may take work at a loss, in order to make the loss less on his unemployed horses and time.

As a general rule, however, the most satisfactory contract work that is done is that which is let at a fair price to competent men who place a high value on their reputation. Irresponsible men should not be entrusted with much work at once. The conditions of getting more should depend upon doing that well.

The execution of landscape work by contract is a subject of discussion,—the conclusions thus far drawn being against it; but the hypothesis being erroneous, the conclusions must be so too. If the ground be taken that a contractor should be able to bid on effects, then the system fails; but why should he be expected to bid on effects in landscape scenery any more than he should in a church-spire? Is architecture any less a fine art than landscape-gardening? But what has a contractor to do with effects or results? His business is to execute a certain specified piece of work in accordance with a certain plan, and under the superintendence of the

designer or his assistant. If the form be ugly, or its effect bad, it is nought to him. Has an artist no conception of the beauty in surface? or does he only know that it is beautiful when he sees it? Suppose digging and dumping is done, and no beautiful effect is produced, must it be done again and again? and when an effect is produced, by what process shall we know that it is the most beautiful that could have been found? If "it is impossible for any landscape-gardener to say how much digging and dumping will be necessary to produce the effect he seeks," why not have him educated up to that point where he shall know? Are we to suppose that Powers watched the Greek Slave or a "what is it?" or that Sir Christopher Wren piled stone upon stone to find the effect he wanted?

Proposing to make a park by contract is not contracting for effects. Plans and specifications do not imply that a contractor shall be responsible for harmony, proportion, or beauty, and no estimate of them by the foot or pound is indicated or expected. If a landscape-gardener cannot plan and specify the improvement of ground, he is deficient in his professional education. If he can plan and specify his work, it is a subject of contract. There is a certain point in all works of art where the hand of the artist is required; and it is that point where his genius rises above the machinery of the bone and muscle around him. It cannot be presumed that the heavy and laborious work attendant upon works of art is executed by the controlling mind that designs them. The marble statue is finished, to unprofessional eyes, when the artist takes it. The bulk of the work on large paintings is done by inferior hands. Why should a skilful artist employ his time and talents on mechanical details, his work begins where the medium skill of others end? His practice lies in the higher walks of art and design. Composition and effect are his great forts. There is a very wide difference between contracting for the execution of any class of work, and contracting for the impression it shall produce upon the mind. This last hypothesis, including a presumption that a landscape-gardener cannot know his business, is the basis of all argument against the possibility of executing landscape work by contract,—a very specious mode of arriving at results.

Before proceeding farther, we should state, that that part of the creation of landscape scenery which applies to the formation of surfaces, construction of roads and walks, ornamental water, terracing, bridging, drainage, &c., &c., should be considered under a different head from that which treats of grass, trees, or shrubbery. The first implies a knowledge of civil and topographical engineering, but which

we designate as landscape-engineering, as it must combine results, not only useful and practical, but a development of the artistical and beautiful. The second implies a knowledge of gardening, of the habits and future forms of trees, &c., the best manner of transplanting, arranging and nursing them, the character of the soil, exposures, &c., together with a knowledge of the harmony of color, and the effects of aerial and linear perspective.

It is a well-known fact, that the resources of civil engineering will give the necessary information required to perfect any design in earth-work, and to plan and specify it; and we therefore conclude that it is a subject of contract, always reserving that the finish of the surface should be done under the personal superintendence of the designer. The result of our convictions arising from a series of actual experiments, and a thorough investigation of similar operations in the hands of others, have satisfied us that the contract system is applicable to landscape work, but that it involves a high degree of skill in landscape-engineering, and the employment of honorable and skilful contractors.

The policy of doing work of this class by contract may require further consideration. Economy may dictate it, because the equipment and organization of contractors' forces enable him to execute work at a less rate and make more money. What is business to him are experiments to others; and system will make available the full power of a gang of men, while others would waste a third. The employment of superintendents who are well posted in all the processes of grading is by too many considered expensive practice. Our experience has taught us that the employment of the best talent that could be found was, in the end, the cheapest and most satisfactory.—cheap men, like cheap houses, being the most costly; and there are too many who love to see the folly of oft-repeated experiments, not content to begin where others leave off, but prefer to follow in the same track to encounter and repeat the same faults. Landscape-gardening is progressive, and the amateur of to-day commits a mistake when he fails to post himself up on the results of all experiments that have already been demonstrated.

IS IT IMPERATIVELY NECESSARY TO CUT DOWN THE OLD CANES IN THE VINERY?

BY H. E. CHITTY, NEW LONDON, CONN.

I HAVE read, with much interest, the remarks which have appeared, from time to time, in the *Monthly*, upon grape-culture, especially the articles from the pen of Mr. Bright upon The Renewal System of Pruning. But I think Mr. Bright takes

very strong ground when he declares, in the last number, the imperative necessity of cutting down the old canes. Now, in the first place, what does Mr. Bright style an old cane? I have under my charge a span-roofed vinery, eighty feet long, half of which was built three years ago. The border was well made, and the vines planted four feet apart on both sides. The other forty feet were added last winter, the border made, and young vines planted in the spring. Last summer was the third season of the first-mentioned vines. Each vine produced, on the average, as many grapes as was consistent with the age of the vines. They were beautiful, and the admiration of every person who saw them. The wood ripened well. They were spur-pruned in November, cleaned, layed down and covered with dry sea-weed for winter. And they are at this moment every thing that could be desired in vines of that age. Now, I wish to ask Mr. Bright if he would consider these as old vines? And if, to insure their future productiveness, it is imperatively necessary that they should be cut down to within a foot or so of the ground?

I would also ask Mr. Bright, if he could conscientiously recommend and advise my employer to sacrifice those vines at once to the long-cane renewal system. Just after my apprenticeship was finished, I lived two years with Edward Mitchell, of Brighton, England. Mr. Mitchell, long previously, had been noted as one of the leading grape-growers in England; and he sustained that reputation long after I left him. He generally took the first premiums in the market-growers' class at Chiswick and Regent's Park, had the first grapes in market, and commanded the highest prices for his productions. Mr. Mitchell, while I remained with him, was fruiting vines that had been regularly spurred for sixteen or eighteen years, and the grapes still were of the very finest description. The vines were smooth and healthy looking, though very thick; the leaves were also perfect. And when the grape-mildew first made such dreadful ravages in England, Mr. Mitchell suffered with the rest, but those old vines were the only ones which resisted the mildew sufficiently to ripen the crop. I have often heard Mr. Mitchell say that they were his best vines. He used, however, to adopt Mr. Bright's long-cane renewal system occasionally when the crops failed to set good, or the canes became unsightly. I have also seen it practiced at the Duke of Norfolk's, at Arundel Castle; at Hampton Court Palace Gardens; at Wilmot's, of Isleworth, and various other places. I have also, long ago, practised it myself. I, however, have no wish to dispute Mr. Bright's claim to the originality of the system, though it was undoubtedly practised in England many years before

either Mr. Bright or myself saw the light; probably as long as the vine has been cultivated there. The chief novelty of Mr. Bright's system consists in his exertions to make a rule of what has heretofore been the exception,—a practice universal, which, in some cases and under some circumstances, may be advantageously adopted. Here is a case to the point. Last winter two of the canes in one of our vineries became exposed during the severe weather, so that in spring I found it necessary to cut them down. They started again, and made fine new canes clear to the top of the house, and are every thing which could be desired in one year's canes. But my employer only estimates their value at *one-fourth* that of the other vines which were not cut down.

Here, then, is an instance of the long-cane renewal system, dictated by *purely accidental* causes, which, in a measure, proved successful. I have under my management two vineries, the vines in which are of two years' growth, since planted out, and I think no argument Mr. Bright could employ could convince me of the advantage of cutting them alternately down. But I am acquainted with vineries not a thousand miles from where I write, on which the renewal system might be employed to advantage, *provided* they could be judiciously managed afterwards. In fact, two years ago a gentleman asked me what was best for him to do with his vines. I advised him to cut them down and get new canes from the roots. Whether my advice was acted on or not, I am not able to say; but this, as well as the instance cited above, was long before I saw Mr. Bright's views in print.

Again, Mr. Bright refers to the fact of Mr. Ellis finding it beneficial to cut down some of his vines, as materially assisting his theory. Now, to me the article referred to in the December *Monthly* has a very different signification. Mr. Ellis is an intelligent man, ready and willing to employ the means at his disposal, which in this case must result to his advantage. It clearly shows, however, that Mr. Ellis has long been familiar with the result, and advantages of the practice in certain cases, although his faith in it as a system may have been strengthened by Mr. Bright's writings.

But the context shows that Mr. Ellis is not willing to adopt Mr. Bright's practice *in toto*. He does not intend fruiting the canes the entire length of the rafter the first season, but to gradually fruit and spur it according to circumstances. Thus we see that Mr. Ellis, as well as all other practical men, are impelled by force of circumstances to adopt measures of the greatest practical utility and economy temporarily, which, as a rule, would be extreme. How prone are gardeners to go to extremes in theory! If a dwarf pear becomes broken down,

and we find, after cutting it off smooth, that it throws up a strong shoot, and eventually makes a handsome, thrifty tree, should we be justified in advocating the indiscriminate breaking and cutting down of all dwarf pear or other trees?

Mr. Bright finds, from experience, that, for pot-culture, and in some other cases, the annual renewal system is best, and declares the *imperative necessity* of cutting down all old grape vines, and actually reducing the grape vines, in all cases, to a mere annual or biennial plant. I could mention plenty of instances where it would not only be extremely injudicious, but absolutely at variance with my ideas of common-sense, to adopt Mr. Bright's system as a regular practice.

Mr. Bright, in quoting the article from the *Gardener's Chronicle*, says:—"To my mind, the Doctor's reasoning is very conclusive and satisfactory." Mr. Bright is more easily satisfied with what may have a bearing on his darling theory than what I would be. While I am perfectly ready to admit the Doctor's eminent skill as a botanist and physiologist, I am afraid he would make a poor show as a practical gardener, and very much doubt whether he could produce a house of grapes of even ordinary excellence from his own management, with the very best of tools and materials to work with. For my part, I fail to see the conclusiveness and real practical bearing on the subject of any sentence in that quotation. But allow me to ask Mr. Bright one question, then I am done for the present. Allowed that the roots of a vine elaborate each year a given amount of sap, what will be the difference to those roots whether the same amount of sap adds a new layer of wood to the old cane, or goes to the formation of an entirely new cane?

[Dr. Lindley's argument is very clear. No matter how many *roots* a plant may have, their action is secondary to the amount of healthy *leaves*, which "elaborate" or prepare the sap, which the roots merely *absorb*, not "elaborate," though there is a mutual influence on root and leaf. Healthy leaves induce healthy root-growth; and healthy root-growth induces, in like manner, a healthy growth of leaves.

In reduced terms, Dr. Lindley's argument may be stated:—The quantity of wood formed depends on the quantity of leaves. The trunk or stem of a tree requires an increased proportion of wood each successive year. If the proportion of leaves is not increased, the proportion of wood cannot increase; therefore the stem or trunk does not get what it requires. This seems sound.

We think the question of pruning becomes one rather of profit and loss, than of science and logic. The lat-

ter can be made to partially support both views; but the former will suit the masses best.

We should like to see the question put in this shape: By planting a double number of vines than is usual, and cutting down each one alternately annually; can a greater weight of fruit be produced in an equal space, in an equal period, and at an equal expense?

Science has done her part for Mr. Bright's view, —facts and figures we are anxiously awaiting. Excellent results have followed the old system, and Mr. Chitty well presents them. We should ourselves adopt the old system, trying Mr. Bright's, however, on a small scale wherever practicable, until time had struck the balance of results for or against it.—Ed.]

AGE.

BY JOSEPH AMRAM.

SPRING is coming. With the return of sap in vegetation, with the re-awakening of nature, there returns and re-awakens in man's soul the desire to do and to act. *Improvements* appear before his desire. The air gets just balmy enough to invite him out of doors, and is still bracing enough to fan him into brisk activity. He wanders about the farm, the park, the garden; and, in running over the ground, he runs over, in his mind, the schemes of last year to correct this or that, or he forms new ones on the spot.

Whatever he may undertake, let him try for the appearance of age. The newness of things is distasteful. To be comfortable in mind and body, we want our house to be old,—not decaying,—but worn by and fitting its inmates, every nook and corner with its use and its tale. Old wine, old love, old trees, old friends, old faith,—they are always fresh in their age, and very little good in their youth. Indeed, if I look round creation, I discover but one thing which must be new and young for me; and that—why not say it?—is a baby. Nobody likes an old baby.

To steer now to the point. In improving ground, had we better not avoid all look of newness? For my part, I rather carry my new road or walk a little out of the way to get near old trees or an old bank of brambles, than be obliged to plant it along with young stuff. It will not fit to the rest if I do.

I also have to paint the woodwork of my house afresh. But I will not paint staring zinc white,—that failing of our American country-houses. White is no color,—is but an intensity of light which hurts the eyes, the brain, the soul, and looks well only in long distances, *e.g.*, when, a mile off, you get a peep of a white house on a green-wooded knoll. There the white is broken by the green, and is no more

actual white, the distance and the clouds having shaded it down already into grey tints.

What, then, shall I paint? I will take sober colors in *soft contrast* with things round. But no one color will suffice for my eye, if there is not at least one more of the same tint, lighter or darker, going along with it as the shade goes naturally with the light. Frames, panels, columns, and their caps and bases can thus alone get their value. But even the sober tints are too new and fresh to me for the first few months. I know the house newly painted will chafe a little on me like new boots, or a new coat not broke in.

"A fop, a poodle, and a bran new coat,
That's what's in every line he wrote."

However, there are creepers on the wall, and there are pillars hid under roses, and they will soften the harshness of new paint. Who will teach me to lay on paint so as to look old?

My barn, too, wants whitewashing; but here, happily, I have an arcanum. My whitewash is greywash, bluish grey. It will be splashed on, rather than washed on. The stones are uneven; it will, consequently, look uneven; and what with the ogive windows, and the small panes, and the trumpet-vine hanging from the top of the roof, seeking the denied support, my barn will look old enough to my taste. If it does not, I shall try, and by kindling wet brush against it, shall smoke it to make sure of age.

What an absurdity this will appear to many! I appeal to good taste, of the approbation of which I feel confident. Newness borders on show and vulgarity. Newness as often expresses an intention, rather than a power. Age alone is character. Newness is a misfortune, which either years must overcome or our double-distilled ingenuity. And whoever will be good enough to state his recipes for age in this our *Gardener's Monthly*, will earn the thanks of a grateful gardening and improving public.

[Our good friend seems to be inspired to write to us only once a year, and that about spring-time. We do wish spring came to him every month.—Ed.]

BELTED PARKS.

BY WALTER ELDER, PHILADELPHIA.

It is surprising that among our boasted rural improvements, our wealthy citizens do not adopt the sensible plan of adorning and sheltering their *parks* or country-seats with belts of trees. A belt even along the wayside, with an ornamental gate and lodge at its side, gives the place an air of magnificence and seclusion, that nothing else could, and which are considered the first marks of refinement, and convey the idea to the mind of the passer-by

that all must be beauty and splendor within, and glimpses of the interior in passing the gateway and through the openings of the belt. The sod looks greener, the avenue brighter, the trees on the lawn more massive, and the buildings larger and more noble. It is the belted park that imparts that picturesque beauty to the landscape which is so highly admired in other lands. Nor are these all. It has been proved that the extremes of summer and winter are several degrees less in belted parks than in open fields; and surely our extremes and sudden changes of weather are greater than that of any other country of the same latitude. Our summer hurricanes and winter tempests sweep over the open plains in wild, untamed velocity, carrying havoc and destruction in their courses, unroofing buildings, blowing some down, and others off their stands, and almost withering up man and beast unless they get timely shelter; but no such desolations occur in well-belted parks. The resisting power of the trees cheats the violence of the storm, and stays the rage of the winds, and breaks their force into fragments as they whistle through the belts and loudly moan over their own destruction, and pass over the park in a subdued mood. Indeed, trees are a divine gift, to give shade and shelter to the world. It is high time that we, in the Eastern and Middle States, should stay the stroke of the woodman's axe, and employ the ploughman and delver to prepare the soils and plant out trees. Many of our finer fruits have become precarious crops for want of shelter from the sudden changes and violent freaks of our climate. And some cultivators go so far as to say that our climate is changed; but those kinds of fruits which are now uncertain crops in open farmers' fields will be of easy and successful culture in belted parks. The same may be said of some culinary vegetables,—they will be earlier and last longer.

The great drawback to planting out trees with us is, that so many improper persons are employed to do the work. Many of our wealthy citizens are to blame for this. The first and main questions asked are, How much do you charge per day? How much will you charge to plant so many trees? It is not, How well will you do so? Now, there is as much difference of men as of merchandise in their value. The great greed and hurry to get great quantities of work done cheap is the true cause of disappointment and bane in gardening. In preparing the soil for belts of trees, give a deep subsoil-ploughing early in spring, and sow it down with oats; harrow and roll it down, and when the crop is a foot tall, plough it under, and, after lying a fortnight, sow it thickly with buckwheat; harrow and roll it in, and when it is coming into bloom, plough it under, and the beginning of October harrow and roll again, and open

furrows, by running the plough both ways in the same furrows, say seven or eight feet apart, and plant the evergreens in them at once. The beginning of November plant out the deciduous trees, say eight or ten feet apart in the furrows, breaking the openings in each furrow. Trees six to eight feet tall are large enough, and a sixth part of them should be evergreens; and the first year the weeds should be kept down with hoe and cultivator, and the second year cut them off once a month, with hook or scythe, to prevent their seeding. After that they will need no care but topping-off the deciduous trees occasionally to make them branch below, but let evergreens run up.

Do I hear some one say, "The belts of trees prevent a free circulation of air passing through the place"? I answer, They check the speed of the air, but refine it fitting for the lungs. The life-giving part, *oxygen*, is heaviest, and falls down, and you get it. Trees sift the air, and separate the "wheat from the chaff," and you get the grains. Strong currents of air are injurious to health, especially evening currents to matrons and maidens who have been shut up in close and dark rooms during the day. Any one can obtain a current of air by walking, running, and riding through it. In that case, it is the exercise, and not the quantity of air, that gives strength. It is a well-known fact, that those who live in belted parks in Great Britain are longer-lived than those who live out of them. But the belted parks give shelter to large tracts of the country. The breeds of horses, cattle, sheep, &c., have improved with the increased number of belted parks there. Indeed, it has been proved that the yield of ten cows in a belted park is equal to that of fifteen in an open farmer's field, all other things being equal. The same may be said of fruit trees and culinary vegetables. [Neither fruit trees nor vegetable garden should be within, at least, a hundred yards of trees.]

Another says, "The trees will hide the view of the landscape around us." I answer, that the larger kinds of trees in the belts can be so arranged as to suit that, and an observatory can be made upon the house-top to view the landscape; but the fashion of taking visitors up there to see the landscape around, and carry their eyes off our own places, is imprudent. Better make beauties upon the place, and show them to our friends, and when they depart they will speak of the place and all they saw upon it. And to show them the landscape, take them to a height in the distance, from where our own place will show to advantage, and be a particular striking beauty in the scene; for nothing can be more beautiful in the landscape than a finely-belted park.

EFFECT OF DEW ON PRODUCING ROT AND MILDEW.

BY A. A. MULLET, GLENDALE, O.

As no one has responded to the invitation for more light on the culture of the grape on Kelly's Island, I consider the subject of sufficient public importance to make a few remarks on Mr. Bateham's article.

Undoubtedly, great success has attended the culture of the grape in that region; but I do not think the evidence warrants the conclusion that it is due to the absence of dews and fogs. Let us examine the points laid down in Mr. Bateham's communication.

First, "That the mode of training and pruning differs materially from that practiced around Cincinnati, especially in allowing the vines more wood and leaf."

Secondly, "The vines are planted 6 feet by 8."

Thirdly, "The soil of the Island is naturally well adapted to the grape, consisting of friable, deep, calcareous loam, resting on shale or lime rock having deep fissures which afford natural drainage."

The first and second of these positions is simply stated in that report, and little value is attributed to the last, for the *main secret is believed to be due to the absence of dews and fogs.*

Now a large number of vineyards around Cincinnati are comparatively as free from fogs on account of their high elevation as Kelly's Island, and yet they are subject to mildew, nay, the crops have been entirely destroyed. We therefore must look to other causes for the success, and I believe those causes are clearly pointed out in these valuable positions as stated above. Let us carefully examine these three *important* facts, set before us in that communication, and which I consider to be its true value and the real cause of success, viz.: *the distance of planting; the method of pruning; the preparation and drainage of the soil.*

Mr. Bateham is fully aware of the general method of planting and pruning adopted in the vicinity of Cincinnati, for he speaks of the *material difference, especially in allowing the vines more wood and leaf*; and knows something of the controversies that have taken place in the Cincinnati Horticultural Society, on the long and short system of pruning, for he is a constant reader of its weekly reports, and has, no doubt, read some of the reports of special committees appointed by that society to investigate the causes of the failure of the grape crop. Perhaps an extract from a report that I, as chairman of a special committee, read to the Society on November 15th, 1858, may not be amiss here:

"That the most judiciously planted vineyard that I had visited belonged to a member of this society. His vines are planted wider than usual, and every fifth or sixth row he left a space wide enough for a

wagon to pass; thus giving the vines a greater supply of sun and air." And Mr. Buchanan, one of our most successful cultivators, immediately named Mr. Hodge as the person referred to. The usual distance of planting has hitherto been 3 to 4, or 4 by 5, but few could now be found to plant closer than 5 by 6, and some would even prefer 5 by 8. The Catawba and Isabella are the principal varieties grown on the Island, as at Cincinnati and elsewhere. Native varieties are said by Mr. Longworth, Mr. Garber, Mr. Prince, and a host of others, to be well adapted to our climate; and these authorities have repudiated *all foreign varieties* as not suitable to our climate, and some have gone so far as to reject even seedlings from foreign varieties. I do not believe this theory of fog and dews could be assented to without repudiating what has been said by those experienced cultivators as to the fitness of our *native vines for our climate*. If we examine the method that has been generally adopted in the Winter or Spring pruning of our native vines, we shall find that it is according to the German method, whose vines are comparatively of a feebler growth when compared to our robust and luxuriant growers—the Isabella or Catawba; both of which are capable of maturing, under favorable circumstances, over five hundred of well developed bunches. And here is one of the material points noticed in Mr. Bateham's report—*"especially allowing the vines more wood and leaf."* If Dr. Hales' statement be correct, he found that a cabbage emitted nearly half its weight of moisture in twenty-four hours. This watery expiration takes place chiefly during the day, and is checked by rains and reduction of temperature, and every nurseryman is fully aware of the immense expiration that takes place through the leaves; for, if they take a spray from a tree for the purpose of budding, they invariably cut off all the leaves to retain the moisture.

Let us now apply the principles to the culture of the vine, especially in ill-drained and clay subsoils retentive of moisture, and see if cause sufficient cannot be found in the short system of pruning to account for the principal cause of the mildew. And if so, we have at hand a practical and scientific remedy.

Should there be, in the month of June, much rain, followed by a hot sun, we may expect the mildew; for the soil being well filled with moisture, and the hot sun causing an excessive flow of sap. For a want of sufficient leaves to evaporate the excess, the tender cells of the young berries become ruptured, thus producing the mildew, which is entirely avoided on Kelly's Island by the especial allowance of more wood and leaf. I well recollect in a discussion that took place in the Cincinnati Horticultural Society, a remark made by Dr. S. Mosher, "that the French *Oidium* differed from the American; the former was

from without, while the latter was from within." This, at the time, I considered a concession to the advocates of long pruning. But I see by a recent report to the Cincinnati Horticultural Society by Dr. S. Mosher, R. Buchanan and J. E. Mottier, some of our best and most successful wine growers, condemn the erroneous system of short Summer-pruning, having found it detrimental to the ripening of the fruit, and I doubt not that the short system of Winter or Spring pruning will before long receive also its just condemnation.

It is seldom or ever that the mildew attacks vines until after the fourth year, for in the same vineyards and under the same atmospheric influence, the vines of three and four years old have had a full crop, while those of six years and upwards were entirely destroyed by mildew. I had a proof sufficient to convince me of the correctness of this theory in 1858. I visited a vineyard of about six acres, the crop of which had been entirely destroyed by mildew, with the exception of a few vines that had run up some cherry trees; these had a fair crop, and one row which had all the roots cut off on one side of the row for the purpose of making a drain for a cellar, and that one row had a full crop of well-matured grapes. The owner had root-pruned that row, and hence the success.

The roots of the Catawba have been traced over twenty feet, and yet these native and luxuriant vines have been subjected to the same short and murderous system practiced by the Germans on their vines, which are of a feeble growth. Mr. Bateham speaks of the influence of the lake in ripening the fruit; if those grapes exhibited at Cincinnati be taken as fair samples, they are not to be compared to those I saw in Mr. Mottier's vineyard, either in color or quality. I thought them exceedingly deficient in grape sugar, consequently not well adapted for wine. But Mr. Mottier does not practice Summer-pruning, but believes that the leaves have important functions to perform; and while others cut off the tops of the vines to let the sun in to ripen the fruit, he lets the leaves accomplish this, and the richness of his grapes both in color and quality, proves the correctness of his practice. If any one doubt the correctness of this system they can satisfy themselves by visiting his vineyard at the proper season, or his wine cellars at any season, and I am satisfied they will fully endorse my judgment that his grapes and wine are hard to beat by those of Kelly's Island or elsewhere, and should they be fortunate enough to get a glass of his "United States Fair Premium Wine," they will, no doubt, approve the committee's decision, and perhaps secure a box of the same for their use. I have digressed a little from my subject, and having extended this article beyond the limits I intended, I

shall conclude by stating that if I am not mistaken in the signs of the times, that not only the Summer pruning will be generally discontinued, but that the short system of Winter-pruning and close system of planting will soon be superseded by wider planting, better drainage and especially allowing the vines more wood, as so forcibly stated by Mr. Bateham in his communication.

[Around the Lakes and in Canada, where the extremes of moisture in the atmosphere are not sudden and violent, the foreign grape is entirely free from mildew. On Kelly's Island, where, by the absence of dews and fogs, the climate is proved to be in a like regular condition, Mr. Bateham notices the same success in the culture of the native grape. When we come to a dryer and more changeable climate, the foreign grape fails. Its tender leaves and spongy wood part with moisture too rapidly, and mildew ensues. So the cultivator builds a cold vinery over the grapes, which insures the moist and regular climate of the Lakes, and mildew is in a measure conquered. Mr. Mullett's experience is similar in its results.

In drained ground, where heat and moisture are more regular; in wider planted vineyards, where the plants cannot rob each other so easily in a dry time; in less Summer-pruned vines where the well-known effect is to produce harder and less spongy wood; and in vines running over trees where the partial shade checks evaporation; the same effects are produced that nature effects on the atmosphere of Kelly's Island, and the foreign grape grower does in his vinery. The whole series of experiences shows a striking coincidence of causes from the most opposite views to one point. It is highly probable that it will become an admitted principle that "an over dry or suddenly dried atmosphere is the most common cause of the mildew and rot in grapes, causing a greater evaporation than the plant can healthily supply." All this can be partially remedied by correct pruning, draining, shading, or locality, as well as the selection of kinds with thick leathery foliage, that will not easily wilt under any common sun.

We should be glad to receive from other of our correspondents any additional observations, confirmatory or otherwise, of these views.—ED.]

PACKING FRUIT.

BY "CLAUDE," LODI, N. J.

MAY not the decay of the large Duchesse d'Angouleme pear, sent from Wayne County to Philadelphia, (as mentioned in the December *Monthly*), be as attributable to their enormous size as to the effects of their transit?

I have noticed, this last season, many large fruit of this variety quite diseased in the flesh, whilst the

outside was to all appearance quite sound ; and this too, in the case of fruit that had been gathered and brought into the fruit room carefully. If, however, such large fruit are sent to any distance in barrels, great care indeed would be required in the packing to insure their safe arrival. The barrels should be divided into two or three compartments, according to the size or substance of the fruit, by portable divisions—false-bottom like—which will not only lessen the weight and pressure of the fruit on one another, but will also prevent the *springing* or *yielding* in the sides of the barrels; to prevent which, and also to pack the fruit so as to prevent shaking or shifting in the smallest degree, are the two main points to be attended to in the packing of all kinds of fruit for a journey. Even a short journey is sufficient to injure them if not put up with some sort of care. As an instance, a bushel basket of Duchesse's was sent from this place to New York this last season, and though it is scarcely an hour's ride, they were reported as having come to hand in "*smash*."

On the other hand, some boxes of the same sort were sent to Canada, and they were acknowledged as having arrived quite safe; "Not so much as an injured fruit being among them." They were packed in kiln-dried sawdust, and care was taken to shake it in well through each layer of fruit, and press it down round the sides of the boxes. The fruit was placed stalk upwards, and each layer occupied the hollow spaces formed by the one under it, the sawdust preventing the fruit from touching each other. Each box was finished off with a good layer of the sawdust, pressed down, and left rather fuller than the sides so that when the lid was pressed on it the dust formed a slight convex surface, which made up for any shrinking that might take place on the journey. The fruit, to be sure, were not such monsters as those grown by Mr. Yeomans, but were considered good representatives of the Duchesse d'Angouleme. There were from 7 to 8 dozens in each box.

Fruit of such a size as Mr. Yeoman's should be each wrapt in paper, and particular care taken to keep the ripest, regardless of size, on the top. Boxes are preferable to barrels, and should be made stout in proportion to their size.

I may mention as another instance of success of the above mode of packing, that a box of choice pears was sent from this place to England, about four years ago, which arrived in perfect condition, and were much prized for their very superior flavor and texture. They were kept in the ice house of the ship during the voyage.

Permit me also to mention, as an instance that firm packing holds good in the case of the softest fruits, that some years since, in the "old country,"

I had occasion to send all the forced peaches a distance of seventy miles, but they got more jolting and delays for that distance than on a thousand miles of rail. They were generally two, and in more than one instance three days on the road, owing to mistakes, and in no one instance did they arrive in a damaged condition. They were all packed with perfectly dry moss in stout boxes. Figs, plums and grapes were sent at the same time with perfect safety. The figs, like the peaches, were first wrapped in paper; the plums without paper were packed in the moss; the grapes were packed in their own leaves; a few holes being bored in the tops of the sides of the boxes to prevent heating. In all cases the fruit was perfectly ripe at the time of gathering them.

I am aware there is nothing new in all this; but that most gardeners have practiced it, and are frequently called upon to practice it in most places, private or public; but as the growth of choice fruits is becoming more extended, the knowledge of the best mode of packing them must be also of increasing importance; I have, therefore, given you a hurried outline of mine, and would be glad to see and profit by the experience of others, recorded in your very valuable journal.

PRUNING EVERGREENS.

BY WILLIAM BRIGHT, PHILADELPHIA.

LORD CHESTERFIELD, in his advice to his son, instructed him, when his vanity was assailed by flattery, never to permit himself to be "giggled" out of the return compliment. In accordance with this sage advice, I will say to the EDITOR of the *Gardener's Monthly*, (politely lifting my chapeau), that if there has been a Garibaldi in horticulture, there has also been an Editorial good King Emanuel, under whose wise and benignant sway the aid of Garibaldi is no longer necessary to the public.

Still, I must confess, that praise of my evergreens touches me in a vulnerable point. I believe I have produced some good specimen trees, and with your permission, I will state some of the rules which I have adopted in pruning and training them.

In the first place, it may be set down as a fact, that our principal evergreens will bear the use of the knife in pruning as well as the Osage Orange, the Buckthorn, or the Honey Locust, and a great deal better than the plum, the cherry, or apricot.

Evergreens naturally form beautiful trees, but their primitive beauty is often destroyed by close planting in nursery rows, by injuries received in cultivating them with plough and hoe; by packing them for shipment like bales of hay, and by other causes. If you have one of these deformed seedlings just transplanted to your grounds, with its roots abridged and mangled, it is of no use to prune it when first planted

I do not think that you can aid a sickly evergreen by pruning; indeed, it is my practice never to prune an evergreen at all when transplanting, as we do deciduous trees, but to wait till it is well established before I undertake to improve its form with the knife. If you treat an evergreen so badly in transplanting that it is likely to die, pruning with a view to lessen evaporation, will not save it. On the contrary the shock occasioned by pruning will increase its debility and hasten its death; at least this is my opinion. I rarely, if ever, apply the knife to an evergreen until it has been a year or two transplanted, unless it be taken up carefully with a large ball of earth, and nearly all its roots uninjured.

A perfect evergreen, such as the Norway Spruce and Austrian Pine, generally presents to us a fine pyramidal form and a perfect circle, with branches of nearly equal size, at equal distances, from its base to the top of the leader.

If you have a tree which has a break or vacant space in its structure, in its centre or at its base, you must, of course, cut the top well back so as to throw out the lower deficient side shoots with greater vigor, just as you would in the case of any other tree.

If the tree is one sided, you will cut in the full side, and thus encourage the deficient branches to extend themselves to the limits of the circle which the tree is expected to describe. Sometimes a branch may be twisted around from the full to the weaker side and tied to a stake so as to fill a vacant space with great advantage.

The upper branches of an evergreen must never be allowed to extend over the lower. This is always fatal to the perfection of the tree in single specimens or in hedges. You *must* keep the pyramidal or wedge shape constantly perfect, or the base of your tree will surely decline in vigor and beauty. Trees of this order never recover their lower shoots so long as the upper branches extend over them. This idea is so imperative that I repeat it in various forms.

It is probably unnecessary to say more about what is required to be done in order to change the form of an imperfect tree. The main questions are:—when to prune? how to prune?

The *best* time to prune evergreens is in the Spring, just before they commence to grow. Of course, a moderate trimming may be given with safety in the Fall after the Autumn rains commence, and the work may also be done in the latter part of the Winter, if the season be mild, a month or two before they start.

How to prune? I will try to explain what I have done. I cut an evergreen anywhere, with the most perfect freedom, even back upon wood three years old, and two or three inches in diameter if necessary. I think we may train or prune an evergreen with

success to any form we choose; I believe I can form a Norway hedge, only three feet high, and keep it to that height for a lifetime; or I can prune a Norway to the shape of a crescent or a mill stone, a pyramid or a liberty pole, or any fancy figure except that of an inverted cone, or other shape which throws out the upper branches so as to shade the lower ones,

If you have a tree which is so broken and imperfect in its form that you desire to cut it back severely, you may cut to any point you please if it be even three-fourths of the main stem, with perfect safety, if the tree be well established. When you do this, you will select a side shoot or branch, to which you intend to cut back, *to be tied up for a leader*. All side shoots, or laterals, in evergreens, readily assume the form and functions of main shoots or leaders as desired. But mark this rule: when you cut back the leader or main stem upon old wood, *leave two or three inches of the old wood above the side shoot or branch intended for a leader*, and never cut close to a bud or shoot, as you would on a pear tree. If you neglect this rule you will most probably lose your leader or bud. The old wood left above the bud or shoot will, it is true, form an unsightly snag for a time, but in a year or two it may be neatly trimmed off, and the cut will also by that time be concealed by the new shoots and foliage.

If managed in this way, a Norway Spruce, eight feet high, and four to six years old or more, may be cut down to a height of two to four feet, so as to resemble a mere shrub, or bush, without the slightest injury to its general health or vigor.

If the tree be too heavy and luxuriant in its upper portion and weak and deficient in its lower branches, the leader may be cut back, or disbudded, and the upper side shoots may be thinned and shortened at pleasure, so as to preserve the tapering form, by cutting out the centre, or leader as we may say, of side shoots, and shortening all such shoots or branches as required; or even entire branches may be taken out, if desired, always recollecting, when cutting on old wood or new, not to cut too close to shoots or buds, but to leave a *snag*, as before directed, for the main stem. This rule, however, is not so imperative when applied to the terminal points of growing side shoots.

In pruning the side shoots of evergreens, do not cut all of them to the exact form of the pyramid, but cut-in-and-out, as I may say, so as not to leave the cut ends all on a precise line, but some shorter and some longer than others, just as a skilful barber trims hair, concealing by his art the fact that it has been trimmed. If the cut ends are all on one line the tree will look "buzzy," as the gardeners say.

I warn the novice in this work not to be too radical in his first pruning; not to do too much at one

time. You cannot change the whole form of an imperfect tree in one season. Be gradual in your work. After the first judicious pruning many dormant eyes will break, and the necessity for severe pruning may be prevented by the growth of new shoots. When there are two stems, the weaker one should be cut out as soon as possible. — The great points are to retard the top all you can, by disbudding and cutting back the leader, and thus encouraging the basal shoots, to keep the upper portions of the tree short and thin, and within the line of the perfect pyramid. This is almost the entire art of evergreen pruning.

The rules above given apply more strictly to the Norway Spruce than to other evergreens; but still, with slight exceptions to nearly all of them. I think the Norway may be kept down to a hedge plant, three or four feet high, till its stem becomes a foot in diameter, or more, if the upper shoots be kept shorter than the lower ones, and moderately thin; or it can be grown twenty or thirty feet high, like a liberty pole, with a huge feathered stem, if the same rules be observed in the pruning; that is, to keep the branches at uniform distances, so as to admit the air into all its parts, the top short and thin, and the basal shoots strongest.

The *Scotch Fir*, unlike the Norway, in its most perfect form is not pyramidal, but has rather a round head. The object in pruning this tree should be to preserve its natural form; hence, any branch or shoot, extending beyond the bounds of the true form, should be cut back near to a lateral shoot, as directed for the Norway. If the branches are too thick they may be taken out. The top should be kept slightly oval in form instead of sharply wedge-shaped, but still comparatively thinner and shorter than the base. It is better to disbud the *Scotch Fir*, in the Spring, than to use the knife too freely.

The *Austrian Pine*, while it is one of the most beautiful of evergreens, is the most difficult to manage, and requires less direct use of the knife than any other tree of its class because it makes new shoots but slowly, and has generally but little spare wood in its branches. If an Austrian has one full and one weak side, it is better to try and twist a branch round to the vacant side, and tie it in place, in order to get the desired form, than to attempt to create new shoots by pruning. You cannot force a new growth, as in Norways; pruning may, however, be done in the same way as on Norways, when required by the form of the tree. The leader may be taken out and a side shoot brought up, or branches may be cut back; but, as in the *Scotch*, it is better to disbud than to prune.

The *White Pine* may be pruned very freely when three years old, with great advantage. You may

take out the entire third year's growth of the main stem and tie up a side shoot for a leader. A very beautiful form may be created by twisting shoots round to fill vacant places and disbudding the strongest branches. When the *White Pine* has been cut back it should not be pruned again till the second year afterwards, when, if necessary, the main stem may be taken out again. The object of this treatment is to thicken the tree and to protect the main stem against storms, as it has a strong tendency to become too naked.

The *Silver Fir* is rather tender and very liable to lose its leader, and the terminal buds of laterals, especially after transplanting. It does not always start well; in case the main buds of the leader or laterals are destroyed, you may cut back to a side shoot and tie up a new leader as directed for all the other evergreens. It bears pruning as well as the Norway, and is to be managed by the same rules.

The *Hemlock*, as all gardeners know, may be trimmed with as much freedom as a box hedge. The same general rules which govern the pruning of other trees of this class should, however, be kept in view in our treatment of the *Hemlock*.

The *American Arborvitæ*, whether in the hedge, or grown as single specimens, has a very strong tendency to become thickest at the top and to lose the wedge or pyramidal shape so absolutely necessary to its continued thrift and beauty. You must keep the top thin and the branches of the entire plant equalized, from the base to the top, and the basal shoots very strong. In the hedge, the wedge shape must be very sharply defined, and the upper angle very acute. After opening the top carefully with the knife, cutting large shoots to a proper lateral, you may go over the hedge with a large knife, or reaping hook, and cut off the tips carelessly to produce the desired form. Never use a pair of shears for this work; let it be done, as before suggested, just as a first-class barber trims your hair, *i. e.*, "shingled" off.

The *Hemlock* in the hedge will be treated in the same way as the *Arborvitæ*. I think the *Siberian Arborvitæ* forms the finest evergreen hedge. The *Hemlock* is next in beauty. The *American Arborvitæ* is the cheapest and most speedily grown, and perhaps the most vigorous. The *Norway Spruce*, six feet high, and properly pruned, makes a magnificent and very strong hedge. In perfection of beauty as a hedge plant, nothing, however, has yet surpassed the *Siberian Arborvitæ*.

[It will be seen that we differ entirely from Mr. Bright, as to the advantages of pruning evergreens at the time of transplanting; also in some other matters which will be readily noticed on reference to

our paper last month. So far as Mr. B.'s paper goes his views are excellent and will be read with great interest—for once we have to go farther than he does and hold to the extreme views.

By way of appendix to what we have already said, we add the following: An acquaintance of ours is famous for his success with evergreens transplanted from the woods. As soon as he gets them in Spring, they are thickly set in nursery rows. He usually gets plants about one foot or fifteen inches high; as soon as they are set, he with a box or hedging shears clips them all "unmercifully," down to about six inches, and they are left afterwards without any protection from sun, wind and rain. We have known him practice this successfully the past five years at least, and to employ his plan on arborvitæ, hemlock, and balsam firs. He scarcely asks how the plants have been taken up, though, of course, the more carefully the better; about ninety-five per cent. invariably live.

As to pruning other kinds besides those named by Mr. Bright, the following from the *Germantown Telegraph* will be very interesting. We have seen Major Freas' specimen, and it is a very beautiful one.

"We have likewise a *Cryptomeria*, some fourteen or fifteen feet in height, the branches of which grew almost horizontally and very stragglingly, and became very much rusted by our severe climate, and interiorly bare. We determined to improve it or destroy it; but believing it partook of the same nature of all the evergreen family, we cut away every branch except the leader, within two or three inches of the main stem. Indeed there was nothing left of it except a *bean pole*. This was in the Spring of 1859, and the result was that new and numerous shoots made their appearance from the main stem and the stumps of the abscinded branches, and stood last winter, which was more than usually severe upon not entirely hardy plants and trees, admirably—grew luxuriantly the past season—forming a handsome tree, with most of the branches growing *perpendicularly*. Competent judges say it is the handsomest *Cryptomeria* they have yet seen, and believe it to be the tallest in the country."

WINE-VAULTS AND VINEYARDS OF N. LONGWORTH, CINCINNATI, O.

BY K.

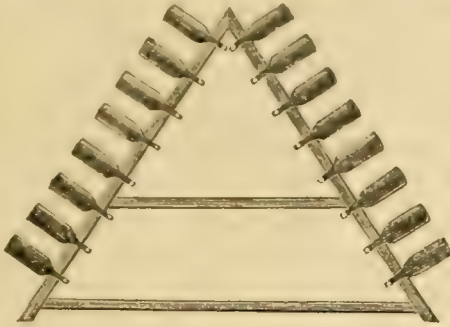
HAVING frequently heard of the extent of Mr. Longworth's operations, and feeling a strong desire to examine his establishment, I had recently an opportunity afforded me of doing so during a short visit to Cincinnati.

Supposing that it would require a note of introduction from the excellent proprietor, I wended my way to his elegant and comfortable mansion, but

was so unfortunate as to find him out. As my time was limited, I concluded to make the trial on my own responsibility, and soon found myself before a large and massive building situated at the corner of Sixth and Broadway, the only entrance to which was through a gateway. I entered the office boldly and stated my wishes to a very polite French gentleman, who instantly called one of the workmen to show me through the establishment. The upper part and ground-floor of the building is principally devoted to the processes of bottling, packing in cases and baskets, shipping, and distilling. The basement is used for storing wine in immense butts during the process of fermentation; and in a building on the opposite side of the court-yard is the distillery, capable of distilling one hundred and fifty gallons of Catawba brandy in twenty-four hours. This brandy is distilled from wine one year old. Underneath the basement and entirely below the fluctuation of temperature at the surface, in immense vaulted apartments, is stored the enormous and valuable stock of champagne or sparkling, and still wines both of the Catawba and Isabella grape in bottles and casks. In the bottling-rooms are several machines of a very simple construction, by the aid of which one man can bottle five thousand bottles of champagne per day. On the ground-floor and basement I was shown a large number of butts of new wine, just made and commencing to ferment. To give the reader some idea of the extent of the stock of wines, here I will mention that I noticed one butt which contained 4575 gallons, and fifteen butts which contained 2000 gallons each, besides an immense number of a smaller size.

The wine for champagne is kept one year in these casks before bottling; but the *still* wine is allowed to remain in them, closely bunged, until it is needed, and then drawn off into casks or bottled, as may be preferred by the purchaser. In these apartments is also kept a large stock of Catawba brandy, and also of a *liqueur* called by the French *Parfait amour des dames*, which is also manufactured in the establishment in large quantities. I was shown, in one of the rooms on the ground-floor, a wine-press of the same kind as that described and figured in your July number of last year. As a general rule, the grapes are pressed at the vineyards immediately after being gathered, and but little work of this kind is done in this establishment. After examining the *super-terrean* departments, our polite attendant prepared to make a descent into the *sub-terrean* regions. Being both provided with a candle, we bade adieu, for a time, to the cheerful light of day, and plunged down a yawning abyss into what appeared more like the dreary realm of Pluto than the courts of vine-crowned and laughing Bacchus. I found myself in one of a series of immense vaults of about

one hundred and fifty feet in length, the whole of which are filled to their utmost capacity with bottled champagne, arranged in long tiers or piles, the bottles being mostly laid in a horizontal position. The wine, just after being bottled, is kept for a time with the mouth of the bottle down in a wooden case, as shown in the annexed sectional drawing.



In one of these vaults alone, my guide informed me, there were over 100,000 bottles. The piles or tiers are about five feet high, and occupy nearly the entire floor, only leaving a narrow aisle or path. I was forcibly reminded, by the sight of so many bottles of champagne, of an old German legend. It is as follows:

His satanic majesty called a mass-meeting on a regimental muster of his imps in a large wine-vault, in which was stored a large quantity of champagne. As they arrived before his majesty, they amused themselves by drinking the champagne; and by the time Beelzebub arrived, his satellites were considerably elated, if not quite drunk. This *undevilish* conduct on the part of his imps so excited the ire of their master, that he immediately corked one of them in each of the bottles; and this (the legend says) accounts for the *effects* of drinking champagne; for in drinking a bottle, you at the same time become possessed of a devil. Now, do not understand me as in any wise endorsing the truth of this legend. On the contrary, I look upon it almost in the light of a libel; for most persons will agree with me in the opinion, that where taken in *moderation*, it has, unlike most other alcoholic beverages, the effect of producing hilarity and promoting wit and humor.

Some idea of the importance and extent of the wine business of Cincinnati may be formed from the fact that Mr. Longworth's stock of wine alone is estimated to be worth *two millions of dollars*, and there are several other establishments here largely engaged in the same business.

Although I have been through some of the largest wine districts of France, I had not an opportunity of seeing the process of wine-making, or rather of wine-pressing, it not being the vintage season. I

was, therefore, much pleased to hear from my guide that this was the height of the season here, and that I could witness the whole operation by walking up to a vineyard owned by Mr. Longworth, which occupies a slope of one of the hills overlooking Cincinnati, known by the name of the *Garden of Eden*. The whole property contains, I believe, about one hundred and fifty acres, a part only of which is planted in vines, the remainder being devoted to other fruit, peaches, apples, pears, strawberries, &c. After searching for some time to find the wine-press, I at last found it in a small barn, situated nearly in the centre of the estate. Here I found the process of picking and pressing the grapes in full operation. Half-grown boys were busy picking the grapes in baskets, which they emptied into a light oaken firkin, provided with leather straps to pass over the shoulder. When this was full, it was carried by a man to the rolling or crushing-mill, and from that to the press. It is scarcely necessary for me to describe these machines, as the designs and descriptions furnished by Mr. Hazeltine to your magazine have already familiarized your readers with them. I cannot, however, forbear to add that the *fresh* juice or *must* of the Catawba grape is the most delicious drink that I have ever tasted.

I have thus, Mr. Editor, endeavored to give your readers an idea, imperfect though it be, of these interesting establishments, and will close by advising them, if they should visit Cincinnati, by all means to visit them.

WATER IN GREENHOUSES.

BY J. C. URE, CHICAGO, ILL.

READING your remarks in your leading article in the December number, where you recommend placing pans of water on flues, reminded me of an article I contributed to the *Prairie Farmer*, of this city, which may be of some service to your readers,—if you think so, please publish it.

HEATING GREENHOUSES.—The majority of greenhouses have the common brick flue. One difficulty with the brick flue is that you have to start the fire an hour before it is necessary to have it, in order to get the required heat. It also dries the atmosphere, so that it has been found necessary to keep vessels filled with water standing on it, the evaporation from which would afford the necessary humidity.

In a house where I have one, I have placed over the furnace on the flue (the brick being removed so that the bottom of the boiler comes in contact with the fire,) a copper boiler with a tin lid, with a weight on it. Two inches above the bottom of this boiler I have inserted a coupling—a common hose coupling, to which is attached a lead pipe— $\frac{3}{4}$ inch—nine feet long. It passes from the boiler under the walk,

and into a large barrel. A hole was bored in the side of the barrel, on the same level with the coupling in the boiler, the end of the pipe inserted, and enlarged on the inside of the barrel with iron and hammer. White lead was used to make the hole about the pipe, water-tight. Such is the apparatus. Now for its use. When the fire is made in furnace, the water being low in the boiler, it immediately produces steam which may escape directly into the greenhouse if the cover is open, modifying the temperature of the atmosphere at once.

This is of great service when but little is wanted, and is wanted immediately—especially in the early morning before the sun rises, on a spring day—and sometimes in a winter day, if the fire has gone down in the furnace, as it sometimes does. It also, with the lid or cover closed, heats the water in the barrel, causing constant evaporation, and creating a moist atmosphere. The water in the barrel is almost always in condition to be used in watering the pots and syringing plants. By adding another pipe the water may be kept in constant circulation on the same principle as houses are heated with hot water; the only difference being its passage through a barrel of water. The pipe can readily be detached from the boiler at the coupling and the boiler removed without disturbing the pipe. But it is not necessary to remove the boiler in order to fill it, as the water in the barrel above the pipe is equal to that in the boiler—hence if it descend to fill the boiler the barrel may be filled. The cost may be more or less, according to circumstances. I had a barrel, and an ordinary cast-aside stove boiler, on hand. The pipe, &c., cost near \$2, which, was the cash cost outside my own labor. This will be saved in a single week in winter.

It can be made an ornament by putting rocks, moss, aquatic plants, &c., about it. There is a good opportunity to make it beautiful, as well as useful.

THE FARMER AND HORTICULTURIST.

BY N. S. N., COLUMBIA, TENN.

THERE has been much ridicule lavished upon book-farming and scientific horticulture. It is said our fathers were farmers by nature, and horticulturists from instinct, and that we, their descendants, have or ought to have inherited their endowments. Consequently the attempt to impart information to our farmers through the medium of books and papers, or to educate our horticulturists, is mere humbuggery; a useless consumption of time, and a wasteful expenditure of money, doing more harm than good. They maintain that farming is no science, neither is horticulture an art, that can be cultivated and improved by studying books or reading papers. Now there is one thing very certain, that

is, those who advocate such opinions are themselves the *moderns* advocating a new theory, and not us who are advocating different principles. These book-hating farmers have really less information on any subject that requires thought and reflection than any other class of society. The difference between a *scientific farmer* and *educated horticulturist* on the one side, and a mere cultivator of the soil, and a planter of trees on the other, is well drawn by a very old writer of the first century, Philo Judeas, who with the Greeks and Romans, regarded farming as a beautiful science, and horticulture as one of the fine arts. He says, on this account shall he, "meaning Cain," cultivate the earth; "He," meaning God, "does not say" "He shall become a farmer." For every farmer is an *artist*, because farming is an *art*. But any of the common people are cultivators of the earth, giving their service to provide themselves with the necessities, without any skill. These men, then, as they have no superintendent in all that they do, do much harm, and whatever they do *well* they do by chance. But the works of farmers, which are performed according to knowledge, are all of them of necessity useful. And among the trees capable of cultivation, he manages them in different ways, and not all in the same way; pruning some, and adding props to others; training some to increase their size, and cutting down others so as to keep them dwarfs. There are also an innumerable host of other operations in farming which proceed by rules of *art*, which it would be superfluous to enumerate on the present occasion, for we have only dwelt on this point at such length for the purpose of showing the difference between the man who is only a cultivator of the earth, and one who is a farmer."

The only object we had in copying the above, was to show that pruning, in all ages, has been regarded as a science, and horticulture one of the fine arts, and the imputation that they are of modern origin, a *clap trap* to make money, is without foundation, made by the penurious and those who believe knowledge to be a curse instead of a blessing. Salt cannot save such.

We are now in January 1861; some day, if nothing unforeseen happens, we expect to have a small mess of very large *Strawberries*, Downer's. They were potted about the middle of October, and placed under glass, but without heat,—they are very large and fine.

HOT DRAINS IN THE OPEN AIR.

BY WALTER ELDER, PHILADELPHIA.

IN answer to the query of E. R. N., St. Louis, I would say that in my business, I visit many country-seats, and when at Charles D. Meigs, M.D.'s

place, last June, I observed some rows of peas earlier than I had seen that season; and, inquiring into the reason, was shown a drain, (tile, I thought,) and was told that a fire was made at the lower mouth on cold nights in spring, and the smoke went out at the upper end. The ground slopes for about thirty feet from the mouth of the drain, and rises three feet in the thirty, and then runs on a level full fifty yards. The fire is made upon the ground, and, as heat ascends, much of it will be lost; but as it is easier to improve than invent, I will give another mode of heating. There are plenty of sheet-iron stoves with rings of fire-brick inside, and cost, when new, one dollar. Make the fire in the stove, and enter the pipe into the drain, which should exactly fit the tile, so as to draw better; and the pipe might have two branches with pipes to lead into two other drains, say three feet or six feet apart, and one fire would heat all the three at once, and no heat would be lost. The pipe fastened upon the stove can have two side holes like a drain-tile where two drains cross each other, and the branch-pipes fitted upon them. The stove and pipes would last many years, and the expense of fuel would be very trifling; and as for the cost of the tile for the drains, that would be nothing in comparison with the pleasure to the owner.

I think that it will do best upon land that has a slight ascent. The tiles should be a foot under the surface, and a row of peas on each side of it, say eighteen inches off it, which will make three feet between the rows. The roots would not be so apt to dry that way, than where a row is right on top of the drain, and the warmth in the ground would be enough to keep frost off the surface and the plants. These drains would be good for early lettuce, radish, beets, &c. A fire is not made every night, but only when frost is expected. Gardeners all know well the value of moderate bottom-heat. More or less fire could be applied at pleasure. The peas in Dr. Meigs' garden were two weeks earlier than others of the same kinds twenty yards from the drains. And the value to a market-gardener can be conceived by the high price such early peas would command, compared with those two weeks later. When I was in that line, I have sold my peas at fifty cents per half-peck; and in ten days later they were down to ten and twelve cents a half-peck; besides, any thing early makes other things sell, and draws new customers to the stall. If I were to rent a truck-garden for but five years, I would make these hot-air drains and make one stove heat three drains six feet apart. When my lease was ended, I could take the tile up and move it to another place. I feel convinced that this mode of forwarding vegetables in spring will be largely adopted when it is more widely

known. It would be a coining of money to the market-gardener near to a large city. Such drains in the alleys between asparagus-beds and between the rows of rhubarb plants, beans, potatoes, tomatoes, egg-plants, and almost every kind of vegetable can be brought into use a fortnight earlier than by the old system; and I say so from ocular demonstration.

[In addition to the suggestions of Mr. Elder, we append the following, from the *London Gardener's Chronicle*, as applicable to the same subject:

"BOTTOM-HEAT STEAM.

"Suppose a furnace and boiler (placed in a hidden corner of a garden), such as to generate a large quantity, and an iron pipe to issue from it conveying the steam, to be laid three feet under the surface of the ground. Suppose a portion of ground to be laid with bell-shaped draining pipes, two or three inches in diameter, in parallel lines, three feet under the surface, and all to be connected with the iron pipe conveying the steam. At the opposite ends of the earthen drain-pipes let there be perpendicular pipes or shafts coming up to the surface, to act as safety-valves and to secure the current of steam, to be kept open, or more or less closed by a small wisp of hay. Let the steam be kept up, more or less, at such seasons of the year, and at such times in each day as experience and the objects sought might direct.

"What would be the effect of such an action of steam on the subsoil and upper soil? Would it not gradually create a warmth in both, ascending upwards, and would it be to a moderate or great degree, requiring to be regulated and controlled? The steam would, no doubt, be condensed to a certain extent, and the water would run off in the pipes, which would act as drains, but the pipes would themselves get hot and communicate a dry heat to the subsoil; while, on the other hand, steam would escape from each junction of the bell-shaped earthen pipes, which fit into each other, but are open to water or steam. This steam would ascend into the subsoil and reach the upper soil, imparting a moist heat as it went, and it would create a moist and warm atmosphere above the surface of the ground. The great question is, the degree and proportion in which all these things would happen, and how far the whole action would be considerable and susceptible of being controlled and moderated, and how far it would be salutary in reference to the growth of plants.

"That such a system would act well under glass can scarcely be doubted. It might be regulated so as only to exclude frost, or a little more; or it might be applied as regards season and degree, so as to govern all the various objects in forcing fruit. Any

excess of moisture in the atmosphere under glass might be corrected by ventilation.

"What would be the effect of such a system applied to the border of a fruit wall, so as to influence the roots of fruit trees, and what the effect on garden culture, applying the steam at such seasons as should ward off frost, and such as were suitable to promote early growth.

"But the idea is probably more applicable to fruit-houses, orchard-houses, and others, and the scheme seems to be a more simple mode of applying heat and moisture than the whole apparatus of hot-water pipes, and much less costly—certainly in the construction, and not more so as respects fuel. It seems likely to create bottom-heat in a more effectual and salutary manner than any other system, if there be no objections which have not been apparent. It would seem to be an idea on the merits of which it is difficult to decide *a priori*, and where experiment is required. It may be observed, that lines of pipes under glass could, of course, be laid at such distances as might be deemed and found to be best, and if perpendicular shafts were brought up inside the houses, thereby diffusing steam, they might be opened or closed at pleasure. On the other hand, the warm vapor rising from the earth inside a house might be found sufficient.—*Steam*."—ED.]

FRUIT-GROWERS' SOCIETY OF EASTERN PENNSYLVANIA. REPORT ON RASPBERRIES.

THE Belle de Fontenay Raspberry mentioned in the Report of the Philadelphia Committee, criticised in your last number by Mr J. T. Harris, was described from plants growing in the grounds of the writer, obtained from an amateur who had imported them from France, and from plants imported in the spring of 1860 direct from Bagnolet, near Paris, the great centre of raspberry culture for the Paris market, which were identical with those of the Committee. Their Report was written, though not published, prior to the meeting of the Pomological Society. The remarks of the President, Mr. Barry, and other experienced horticulturists, confirmed the accuracy of their description. Its peculiar characteristics are a short, stiff, upright cane, thick foliage, *silvery white* on the under side, and very numerous suckers. Its fruit is large and purplish-red. The fruit of the *Merveille* (not *Merveille*, as Mr. Harris has it,) *des Quatre Saisons* is bright red, the canes very tall, and growth rampant; suckers not numerous.

If Mr. Harris will read the remarks on this raspberry made at the Convention and reported on page 19 of the *Gardener's Monthly Extra* for November, he will, we think, be convinced that the Committee are

not in error in their description of this, the finest of all the autumn-bearing varieties of the raspberry.

It has been disseminated by some parties as the *Merveille des Quatre Saisons*, and by others as the *Reine de Fontenay*; the latter is a synonym, the former a misnomer.

J. E. MITCHELL,

R. CORNELIUS,

A. W. HARRISON.

New and Rare Fruits.

MARION PORT GRAPE.—Mr. J. B. Good of York, Pa., send us the following history:

It is often called York Madeira here, but is very distinct from the Schuylkill Muscadel, Cape, or Alexander Grape. Between thirty and forty years ago, a German brought some grape cuttings into this neighborhood, and offered them for sale. My grandfather bought of this person a parcel of cuttings, (for which he paid sixteen dollars,) and planted in his garden. Most of them grew, and when they came into bearing, there were about half a dozen sorts, one of which was a white grape of very vigorous habit, and bore several very large crops, fruit of the finest quality; but the original vine of this variety has probably been destroyed. Another was the Schuylkill Muscadel, which is much larger than the Port, and not so early. Several of them were common Fox Grapes, another was the one, the subject of my history, and known in Ohio and elsewhere as the Marion Port Grape. This grape has been described in No. VII, vol. XIV. of *American Farmer*. There are three or four varieties of grapes cultivated here which are often confounded with each other, and are known under the synonyms of Schuylkill Muscadel, Cape, Alexander, York Madeira, Canby's August, &c., and are also sometimes confounded with the Marion Port Grape. But this latter is very distinct from the Schuylkill or Cape, both in fruit, foliage, and wood, this latter having very large leaves, and somewhat long jointed wood, while the Port has only a medium sized leaf, of a very dark green appearance, and very short jointed wood, and propagates very easily, almost every cutting grows. The Port is a very strong grower, and prolific bearer, even under the most unfavorable circumstances. This grape is much disseminated throughout this State and part of Ohio, but is often found spurious in the nurseries, the varieties above named often being substituted. It succeeds well in all situations, high or low, only varying somewhat in size and quality of fruit, being larger in low situations, and not quite so sweet as on elevated soil.

Ever since introduced here, it has not failed to ripen its most abundant crops, even if neglected. It has not been known to rot or mildew in its thirty years of cultivation here. My grand-father has the original vine yet, and it is still thriving, although, for many years neglected. He has made excellent wine from it, quarter century ago. It is also an excellent table grape when fully ripe. It ripens here the last of August, hangs long and improves.

Rev. Mr. Shepherd says, "It was originated as near as I can trace its history, by the Moravians, at Bethlehem, Pa., and was brought to this vicinity by a German about thirty years ago."

I have several thousand cuttings of this grape which I am willing to distribute in small quantities, (free of charge) among those wishing to give it a trial.

VAN BUREN'S GOLDEN DWARF PEACH.—The following note from Mr. Van Buren, was received last summer, and not intended for publication, but we think it so decided an acquisition, that we "take the responsibility" of its publication:



Enclosed I send you a drawing of a new seedling peach of my own raising, which I think, will prove to be a very valuable variety. The tree is a dwarf, is now four years old, and but 28 inches in height, to the topmost leaf, has small flowers. The drawing sent is the exact size of an ordinary sized specimen, for I made the measurement with a pair of dividers, and pricked it off on paper, and then cut thereon. The fruit is a clingstone, and of first rate flavor. I think it will be invaluable for cultivation in the cold climate of the North, where the buds get winter-killed; for cultivation in small lots and gardens in the cities and towns, as well as for border-

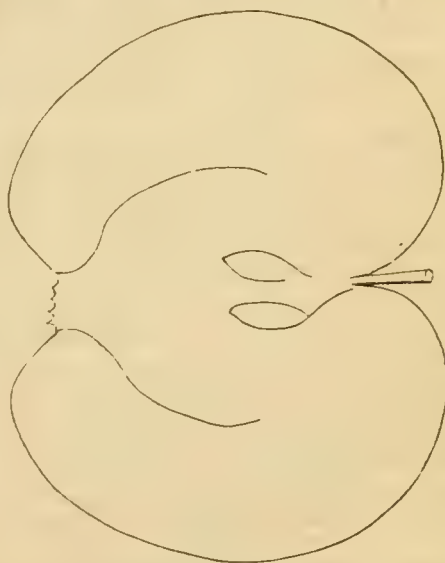
ing walks, for it is truly a beautiful sight to look at these miniature trees, with its golden and carmine fruit.

While every peach bud on my place, having small flowers was killed last April by the frost, I saved this by inverting over it, a three-bushel basket, and throwing on that a horse blanket.

I can now always have a crop of peaches in their season, and snap my fingers in the face of Jack frost.

This is the second year of its bearing; it has made about three or four inches growth the present year, and as it is now in full bearing, I presume will grow but little hereafter. It is a seedling I discovered in the nursery now three years since, and is probably a sprout from some ordinary variety; it grows in ground of ordinary quality, and was manured last spring with a wheel-barrow load of chip-manure and lime, which is all the care it has received.

JACKSON APPLE.—Amongst a lot of apples recently received through the kindness of Mr. Wilson Dennis, of Applebackville, Bucks Co., Pa. It cannot be called new, as it has been years ago described by Dr. W. D. Brinckle; but it is not near as well known as it deserves to be, and we, therefore, have pleasure in giving the following outline and description of Mr. Dennis' specimen, from the pen of our accomplished Pomologist, Dr. J. K. Eshleman.



Above medium in size, oblate conic in form. Skin yellowish green, with streaks of pale red and russett, and small russett dots. Stem short, in a deep, narrow cavity. Calyx brown and large, core small. Herb greenish white, crisp, tender, juicy, "very good,"—some think "best."

The Gardener's Monthly.

PHILADELPHIA, FEBRUARY 1, 1861.

✂ All Communications for the Editor should be addressed "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

✂ Persons sending two new Subscribers for 1861 in addition to their own, with \$3.00 can receive a copy of our First Volume, (1859) free. All persons who have paid their subscriptions for 1861 by sending two new Subscribers and \$2.00 can receive a copy of the same.

✂ Our Subscription list for Rathvon's Entomological Essay, is fast filling up, and as we have only intended publishing a limited number, we would desire all those who may wish to have the work, to send their name and address as early as possible.

RAISING SEEDS.

MANY of us find a great difficulty in raising seeds of flowers, fruits and vegetables, and yet, if the seed is good there is no reason why it should not grow.

We have a friend who is quite a genius in this line. It matters not what is given to him—whether it comes from the Catacombs of Egypt, the claw of an Australian bird, or from the coat of some fierce animal that has for many a long year been the terror of little children in some museum of natural history, all he wants is the privilege to scratch it with his knife to tell you at once what he can do with it. It is a maxim with him that "birds that can sing, and wont sing, ought to be made to sing," and what is more, they "do sing" when he gets hold of them; that is, if the seed *can* grow, in his hands they do grow.

Some time ago, a friend remarked to the writer: "Can you get the seeds of the *Fraxinella* to grow? I have tried, time and again, and have got —, and —, and —; and though they are famous horticulturists, they nor I have ever raised one." The writer replied, "Give them to Jones, he will raise them for you!" and Jones *did* raise them. In two weeks, to the astonishment of our friend, Jones had plants for him.

In company with our friend, we recently paid Jones a visit, and after praising him and his system "up to the skies," hinted that we should like to know the secret of the business; whether it was to him merely the common course of the common laws of nature—or whether he had the additional aid of Diabolous' influence; in short, whether it was his art that did it, or did he employ "conjuring powder?" But Jones said candidly that he did not think it fair that what had taken a life-time of study and experience should be given in one moment to two men for the asking. We then fell back on our official position, representing that we would give it to our readers through the *Gardener's*

Monthly. Still he was obdurate, talking something about "sections" and "parties," and so on, till we really supposed that he mistook us for a politician, and he was being asked for some "force to be employed against the North, or element of destruction to be used against the South." But this was enough to give us the cue to his weakness. He evidently, with all his eccentricities, was a man who felt for men as *men*, and when they were worthy did not stop to inquire what government they lived under. We accordingly pointed out to him where "we circulated," and who were "our readers"—Jews and Gentiles, believers and unbelievers, secessionists and disunionists, monarchists and republicans; that what we published was for the benefit of all, freely and without price; and that "all," too, embracing a numeral of no mean proportions. The spark took effect. He said, "It was one of the green spots amidst desolation he loved to see," and taking our hand with that firm and friendly grasp for which he is well known when his feelings are warmed, he thus began:

"It is necessary first to be sure your seed is good. This is ascertained by dividing a few of them. If the kernal shows no sign of having shrivelled, is plump, and bright, and solid, it is good. Most seeds, such as pines, have naturally a bright ivory look when good, as soon as they lose the germinating power they become of a yellowish tinge; when like this they may be thrown away without the trouble of trying them to grow—(this was his own expression.) Others, such as buckthorn, and most seeds whose plants yield dyes, have the seeds tinged with the same colors as the dyes produced; when bad, these colors are of a blackish or brownish hue, and a little experience readily detects their worthlessness. Then, again, seeds that have no feathery or woolly appendages will sink in water when sound. All seeds that swim are not bad, but all that sink are certainly good in any case, and are well worthy of whatever care we may wish to bestow on raising them.

Having got good seeds, to grow them is easy. They must have moisture to soften the outside skin, and perhaps to afford some of the elements of growth or nutrition; they must have plenty of air, as its oxygen is necessary to destroy some of the parts of the seed, and life only exists by the destruction of other organized matter; and it must have absolute darkness, for light is a fixer of carbon, a hardener of the parts of vegetation, which, it is the object of successful seed-growing to loosen and make soft.

If seeds could be always sown at the moment of gathering, difficulty would not often be experienced in germination, but as they have to be preserved, light and dryness harden the shells of most seeds. Waxy tissues become as horn, horny ones as bone,

bony ones as flint, and sometimes they become so hard that, in some instances, as in *Nelumbiums* that were some years old, I have had to file holes in the seeds till my wrist ached before I could get a successful growth. In hard or flinty seeds artificial means must be resorted to to soften this unnatural hardness before growth can commence. Large seeds may be filed or cracked, and smaller ones may be soaked in warm water for a short time, or suddenly scalded in very hot water, or steeped in solution of potash, or any material of a softening tendency. But I seldom have to resort to any of these extreme measures. My usual plan is to sow anything I get as soon as I get it. I do not cover the seed with soil, or if I do think it necessary in some instances, I cover very slightly and with some material that is very porous and that will admit all the air possible. Then I set my pots in a dark place, that is moderately damp and warm. On the first sign of vegetation, the pots are gradually brought up to the full light, and to their regular conditions of growth."

But, said we, this is all very well for gardeners who have greenhouses, and rare seeds to raise; but tell us something that will benefit our lady leaders, many of whom have such poor luck, as they say, with their flower seeds sown in early Spring.

"They cover them too deeply," replied Jones, "the moisture they get is not in proportion to the air about them—too much of the former, too little of the latter—let them sow them on the surface, and cover with moss, or leaves, or cotton, or anything, taking care only to remove it at once on germination and they will never fail if the seed is good."

For the benefit of our nursery readers, we concluded to press our friend's experience still further, and we said, "Mr. Jones, how would you treat fruit seeds, hedge plants, &c. ? I should like to add something to your hints for the especial benefit of the trade." But here we made a mistake, which we discovered on the instant of passing the word *trade* from our lips. "The trade?" said he, "let the trade study and pay for their education in the same way that I did." We told him that they were willing to pay and did pay for any information they got, as he would find if he would read the *Gardener's Monthly* regularly; that a great majority of the best minds amongst them had already given freely from the stores of their studies and experience in return for what hints they got; that more would do so when his liberal example came before them, and that more over, and above all, he had promised me, at the outset, to tell me what would benefit "all," which includes the "trade." "Well," said he, "I will answer your inquiry by an anecdote. Some years ago, when Osage Orange seed was high in price in this section—\$24.00 per bushel—I was, one day, in

a seedman's store in this city, and in the course of conversation, the proprietor said to me, 'Mr. Jones, I wish you could tell me how to make good Osage Orange seed out of bad; here is a lot I have had on hand for two years, and I am afraid my reputation will suffer if I sell it.' 'Let me see it,' says I. On cutting open a few seeds, I found that it was good. 'What will you take for it?' I asked. 'Glad to get \$12.00 per bushel for it,' he replied, and at that price I bought the lot. This was, I think, in February. I put a large packing case under my greenhouse stage, mixed a good quantity of sand with the seed, put it in the case, and watered the whole with warm water. Every few days with a spade I turned over the whole mass, to be sure that it did not ferment or rot too soon or without my knowledge, and by the middle of March, every seed had a nice little point bursting through the outer skin, when it was soon after sown, and I had the pleasure and profit that always results from a good business operation, the following Fall. All seeds are governed by similar laws, which only require varying a little with different seeds; the principal variation being that the thicker the shell or harder, the more air, darkness and moisture it will require to soften it, and when it is thin or soft very little, if any, previous preparation will be necessary. Let your nursery friends never bury their seeds deeply, but as moisture must be retained, and shallow covering thus be an evil, let that be remedied by precautionary measures—as to time of sowing, covering with porous matter, and so on."

We took our departure, edified and instructed, and on our friend (who, whenever he pleases can express himself in a much more refined manner) exclaiming "that fellow is a brick," we replied in the same unpolished strain—"that's so! and I'll build out of him a pretty good article for our next month's paper."

We will only add a remark of our own, as our good friend Jones did not allude to it. It does not follow that because seeds do not grow it is through our ignorance, and that the seeds are *not good*. There are hundreds of respectable seedsmen through the country who will not sell a bad seed if they know it, and who know enough to know the difference; but there are some of whom this can not be said. The remedy is, to buy as much as you can from those you know, and in your own neighborhood whenever you can. Those who have a reputation to lose are usually careful not to risk losing it.

THE HORTICULTURIST.

WE regret to learn that the Printing Office in which our estimable contemporary the *Horticulturist* was printed, together with the whole of the January number was consumed by fire. We are happy to find that but little delay occurred in republishing it.

BEN DAVIS AND NEW YORK PIPPIN APPLES.

FROM all that we have been able to learn of these apples, we have had an idea that they are identical; and it has been in several instances suggested in this journal; and in one, a correspondent, Mr. Caldwell, confirmed our opinion by referring to "page 119 of Downing's revised edition." Mr. Downing does not refer in the cited instance to the New York Pippin, and we understand our correspondent to have meant, that by taking a New York Pippin, and comparing it with the description and cut of Ben Davis there given, they would be seen to be identical. If the specimens we have hitherto seen of these two apples were correct; we think this would be the inference of any one. But at the last Pomological meeting, in September, both Mr. Wilder and Dr. Warder seemed to be decidedly of the opinion that they were *not the same*; that we felt there was something wrong somewhere, and laid the matter over till another opportunity should afford us a better chance of judging where the error had crept in.

In the meantime we find that Mr. Downing has given a cut and description of the "New York Pippin" in the last number of the *Horticulturist*, which we think, instead of proving that it is not the Ben Davis, rather shows that it is.

In Mr. Downing's work, at page 119 above referred to, Mr. D. says of Ben Davis:

Fruit large, roundish, narrowing a little to the eye. Skin beautifully striped, splashed and marbled with bright red, on yellowish ground. Stalk short, deeply inserted in a deep, narrow, somewhat uneven cavity. Calyx closed, in an angular deep basin. Flesh white, sometimes slightly tinged with red, tender, juicy, with a mild, sub-acid, very pleasant flavor. Season winter and spring.

In the last *Horticulturist* he thus speaks of the "New York Pippin:"

New York Pippin.—Baltimore Red, of southern Illinois.

Baltimore Red Streak, of southern Illinois.

Victoria Red, of some parts of Missouri.

Kentucky Pippin, of south-western Kentucky.

Red Pippin, in some sections of Illinois.

Fruit large, variable in form, (judging from the dozen various specimens sent,) truncate conic, a little oblique, sometimes cylindric, scarcely angular, sometimes sides unequal, light in weight. Skin somewhat waxy, whitish yellow, much shaded with crimson, and considerably splashed and striped with carmine, and moderately sprinkled with gray dots. Stalk short and small, in a rather large, deep cavity, often with light russet, which sometimes extends in rays on the base. Calyx closed, segments short, in a large, rather deep, slightly corrugated basin.

Flesh white, a little coarse, rather tender, moderately juicy, with a pleasant sub-acid flavor. Quality "good." No material difference.

The cuts that are given in the *Horticulturist* with the New York Pippin, and the one given in Downing's Fruits of Ben Davis, are all so near alike, that no aid to their distinctness can be had from them.

In reply to our remarks, it may be said that Mr. Downing would certainly be the last person to describe a fruit in one place as one thing, and in another place, the same article as something else; but we are sure Mr. Downing himself will be the first to admit that all are liable to err, and he himself may be no exception.

Our journal has earned, and we think honestly, a reputation for general pomological accuracy, that we are proud of, and are jealous of seeing damaged "by authority" without good proof; and as it is through it that Ben Davis and New York Pippin are considered the same thing, we want to be the first to correct the error, if error it shall be proved.

GRAND ADMIRABLE PEACH.

[See Frontispiece.]

At the last September Meeting of the Pomological Society, Mr. Lawrence Young, of Louisville, Ky., exhibited some splendid Peaches under this name. We made a sketch of an average-sized one at the time, which we now give as a frontispiece. Usually monstrous fruits are poor in quality. We did not get the opportunity of testing it personally, but were assured by a gentleman acquainted with it that the quality was not inferior in proportion to its size.

The engraving is a specimen of a new style recently introduced in France, and here offered, we believe, for the first time in this country, and reflects great credit on our excellent artist, Mr. Frank R. Stockton. Since writing the above, we have received the following history from Mr. Young:—

Your note of inquiry respecting the history of the "Grand Admirable Peach," is at hand. In answer, all I can say is, that about 20 years ago, a young gardener, who had lived several years with Mr. Gano, a gentleman of taste and enterprise, near Cincinnati, was allowed by his patron to propagate trees and plants for his private use, that afterward the young gardener settled in Louisville, and having no suitable lot for his trees, I purchased them, with a catalogue of names in too much confusion to be reliable. Grand Admirable being one of the catalogue names, was given to this fruit—more because it was known not to belong to the other varieties, which were mostly well known, than from any confidence that it is the true name of the fruit in question.

Since I first cultivated this peach I have bought in the Eastern Nurseries almost every peach that gave promise of good size or other good qualities; but I have received this fruit from no other source. And in 1852, I made a tour during the peach season along the Atlantic, as far South as Virginia. Searching especially for this Peach, I did not recognize if I saw it in New York or Philadelphia. At a Horticultural exhibition in Baltimore, I saw and confidentially recognized two plates, one of very fine grown specimens by the lady of the Rev. Dr. Wolf, another by some of the Feasts, but neither of these were named, although as well as memory serves me, that of the lady was honored with the blue ribbon. I mention these names because now that you have the subject up, it is possible the Feasts, who I think, are fruit-men, might give you some information.

In regard to its value I unhesitatingly say, that my experience has found it to be the first in value of all the white fleshed cling-stone peaches. It is white fleshed to the stone, and nearly as large as the Heath. In the latitude of Louisville, it always ripens with flavor, whilst in very short summers it does not. It ripens after the bulk of the peach crop is over, so that while in beauty and size, it equals any cling preceding it, at the same time it fills a space in the circle of successive ripening which would otherwise be vacant.

Leaves, reniform glands; fruit large, rather long, with a heath-like protuberance or teat; suture slight; skin white, with a beautiful red cheek when exposed to the sun; flesh, whitish, melting and luscious, occasionally a very slight tinge of red at the stone, generally as free from it as White Heath. Flowers small.

I am very glad you are about to bring out this peach, for if it is in Downing I do not recognize it, and I think it will be found desirable as far north as the Heath grows.

FORCING FRUITS AND VEGETABLES IN THE OPEN GROUND.

In another part of our paper appear some remarks on the application of heat to the forcing of vegetables in the open ground, that are worthy of the reader's careful attention.

It is an unquestionable fact that a *few days* advance in a crop over its regularly expected season, is far more profitable to the marketman than it is to have the same article months ahead, and out of its regular season; not so much because the extra early crop is necessarily raised at a greater outlay of cash and skill, as because no one expects it so early, and therefore no one feels the *want*, and without this want there is no care or desire to gratify oneself with a luxury not felt to be so. Luxuries become wants, in

a great measure, by habit; and while the custom is slowly forming, the enterprising raiser of the unseasonable crop is permitted to starve. This we have seen exemplified.

But when the expected season is about to arrive, the first few days of the crop's appearance in market brings very large and profitable prices—profitable because the extra expense of a few days' earliness is comparatively small in proportion to the extra demand and extra price.

Up to the present time, little has been done in this line but to plant in places naturally warm, or to accelerate the growth of seedlings for transplanting in hotbeds or frames, but with recent improvements that have been made in systems of heating, as modes of distributing heat are termed, very much more might undoubtedly be obtained than is now accomplished.

Heat, for instance, by the laws of gravitation, ascends much more rapidly in a strict perpendicular direction than in any approach to a horizontal position; hence, heat might be perceptible at the end of a thousand-feet flue on a rise, when, with the same measure of coal, it would not be perceptible at the end of a hundred-feet flue on a dead level, without some extra and expensive means were taken to counter-balance the gravitation of cold air.

With this view, it might be worth considering what could be done with houses run up longitudinally on hill sides where the soil could be heated by underground drains to great lengths. It must not be forgotten that the amount of heat from an equal quantity of the same kind of coal is always the same; when it is said, therefore, that a house of large extent, on ascending grade, could be heated better than a smaller one on a level, it is meant that the volume of heat would be more equalized through the enclosed space. A house of large extent on an incline could not be highly heated with a proportionately small fire; but for the few days difference our article supposes, it would not be required.

By the old system of building houses or pits with sash frames, such structures could not be well built on sloping ground, because it is essential that a sash should lay level, both for working well and avoiding leakages, but on the now popular fixed roof principle it is not so essential that the work should be level.

There are several questions worth considering before such a plan should be extensively tried. Plants require *perpendicular* space for their growth; a portion of such space is always lost on an incline, and it has to be ascertained whether the area thus lost is fully compensated by the increased facility for the heat's distribution. We merely make the suggestions.

For many things in the open ground no artificial heat might be necessary, and yet cheap glass frames

be found of great assistance. For Rhubarb, Strawberries, Asparagus, Lettuce, and the like, the glass should be set as near the ground as possible—but a few inches from the ground at the front, and but little more at the back, just enough to throw off the water. This would retain the natural heat in the ground and assist the soil to absorb that from the sun, and thus, in many instances, weeks in advance would be gained. As soon as the crops had grown large enough to demand the removal of the sashes, the season would be so far advanced that the plants would be safe without them.

To those friends who have already given us their observations and little experiences on these points, our readers will, we know, award their best thanks, and we hope for further notes. Any small facts in relation to the matter may originate important modes of practice.

MR. RATHVON'S ESSAY.

IN order to clear off some matters on hand, we have delayed the continuation of this excellent paper till next month.

Scraps and Queries.

Communications for this department must reach the Editor on or before the 10th of the month.

GRAPE INSECTS, &c.—H., Worcester, Mass.—In the November number of the *Monthly* you inform a questioner that there is danger of getting certain kinds of insects with grape-vines or cuttings.

Now, I wish to inquire if the risk may not be avoided by dipping the cuttings into some preparation which will prevent the eggs from hatching.

I have been told that a mixture of strong tobacco-water and whale-oil soap will destroy the eggs of all kinds of insects. Is this true? and, if so, will you please to give a recipe for the preparation of it? Would such a mixture do injury to cuttings of single eyes? (1.)

Can the Rebecca Grape be successfully grafted upon our wild vines—the *Vitis Labrusca*? (2.)

Does the Maxatawny Grape ripen earlier than the Isabella? and if so, how much? (3.)

Lastly, will common window-glass answer for glazing hotbed sashes? (4.)

[1. It would certainly lessen the risk. There are no fixed proportions necessary. The soft or whale-oil soap is nearly as good without the tobacco-water, and that without the soap.

2. Perfectly well.

3. It has been ripened here but in one spot. That is not sufficient to establish a general character for time of maturity in a grape-vine. We incline to the

opinion it will settle down as a few days later than Isabella.

4. The only objection is, that cheaper glass will do as well for hotbeds.]

GREENHOUSES.—R. B. C., Moundsville, Va.—Is it the best to have the side lights open or fixed? (1.)

Will it do to have the top lights fixed? (2.)

Is it necessary to have shutters in our climate? (3.)

Will it do to heat a greenhouse seventy feet long with hot-water tanks? Will one do for sixteen feet wide? (4.)

Will it do to have the fire inside? (5.)

Is it the best to have the house on the ascending principle where it is heated with hot water? (6.)

[1. We would have side lights; but it is not essential that they should be made to open, though they are usually so made. All the necessary air will find its way in when the heated air is allowed to escape out of the top.

2. All the roof may be fixed, except a space a few feet in width along the whole or a greater part of the length of the apex of the roof.

3. If the house is snugly built, and tolerably closely glazed, shutters are unnecessary in your district. In forming the laps in the glass, they should not all entirely touch the under pane of glass. It is advantageous to permit the escape of a little moisture in winter time, which very tight glazing prevents.

4. We would heat by tank only when a bottom-heat was required,—such as for propagating, &c. For atmospheric heat in a greenhouse seventy feet long and sixteen feet wide, we would use hot-water pipes.

5. Outside is best, on the whole.

6. We do not regard the relative merits of houses on the ascending principle as fully settled. See article in another column. The pipes will certainly work best when the flow-pipe is on a gradual ascent. The return pipe may be bent, sunk, or made to rise in any direction, so long as it does not in any part rise higher than the flow.]

GRAPES, SHRUBS, AND ROSES.—E. B. G., Manchester, Pa.—Is not the Logan Grape very nearly allied with the true York Madeira? I have not seen the growth of the Logan; but from what I can learn, it must be nearly the same in habit of growth, fruit and earliness, &c. (1.)

Would it be any benefit to underdrain soil for grape-vines, that is for vineyard, where water will remain less than twenty-four hours on the top of the soil after a heavy shower, where the subsoil is sandy and porous below eighteen inches? (2.)

Will grapes grow with any certainty in the open

air, in a moderately shady place, from *single eyes*, after the callus is well formed? (3.)

What twelve varieties of hardy deciduous flowering shrubs would you recommend for the garden or lawn, so as to get the longest-continued bloom and the greatest variety of flowers? (4.)

What twelve varieties of hardy standard roses would you recommend for the garden, so as to get the longest-continued bloom and the greatest variety of flowers? (5.)

[1. York Madeira is later, but a better grape than the Logan.

2. It would.

3. Not well, unless watched, carefully shaded, &c. They would otherwise soon dry up.

4. 1 Forsythia viridissima, 2 Wiegelia rosea, 3 Spiraea prunifolia, 4 Spiraea Reevesii, 5 Pyrus japonica, 6 Hypericum kalmianum, 7 Colutea arborescens, 8 Philadelphus coronarius, 9 Deutzia gracilis, 10 Persian Lilac, 11 Magnolia purpurea, 12 Missouri Currant.

5. Baron Prevost, Prince Albert, Garibaldi, Paxton, Youland d'Arragon, Coronet, Monthly Cabage, General Jacqueminot, Lion of Combats, Triomphe de l'Exposition, Dr. Marx, and Caroline de Sansal.

CRACKING OF GRAPES—*A Subscriber, Skeneatles, N. Y.*—I last year allowed a few bunches to ripen on most of the vines planted in 1859. The fruit was good, both in flavor and color, with the exception of two bunches on a plant of Muscat Blanc Hatif, the berries mostly all cracking when half ripe. What is the cause?

[It is not well understood, though most practical men hold their "most decided opinions" on the cause. Some varieties are more liable to cracking than others. Muscat Blanc Hatif is one of them.

DRAINING WITHOUT AN OUTLET.—*A correspondent at Bridgeton, N. J.*, inquires whether he can make a well, and use it as an outlet, into which to run the tiles with which he wishes to underdrain his garden. We presume, under some circumstances, such a plan would serve; but have never known the experiment tried. Have any of our correspondents had experience in such a case?

GRAPE-CUTTINGS—*R. C., Provincetown, Mass.*—They are best cut into lengths of two eyes, one at each end of the cutting, and set down into the soil so that the topmost eye is nearly level with the surface. Situation for striking is one partially shaded. Put out as early in spring as possible. They may be cut off at once, and kept till spring in a cellar or shed, covered

with soil. There is no advantage in planting them at once where they are permanently to remain.

SCORCHING GRAPE-VINE LEAVES.—*J. M., Portland, Maine*, writes that he has a vinery that is seventeen feet wide, having a border the whole width. A very porous soil, not very rich, but fully three feet deep. The inside one similar in material, ten or twelve feet in width. Its front elevation is fourteen feet, and the principle a "lean-to." The vines are trained up ten feet up the side lights, and fifteen inches from the roof. Every year the leaves "scorch," or appear to burn up at the edges. Thinking it was the sun, he had them shaded, without a better result; and fearing the inside border might be too dry, he had that guarded against; but the injury still occurs. He inquires, what can be the reason? By the scorching being confined to the edges of the leaves, we should certainly still think they were too dry at the roots. Were the leaves equally affected all over, we should look for red spider, or even thrip, as the cause of the mischief.

ERICAS—*G. F., Mattapan, Mass.*—The month of February is the best to pot Ericas in this country. They will then get a good mass of roots before the hot weather sets in. We have found nothing like a sunk pit, with a frame over the top and the sides open, to get them well over our dry summer, as well as to prevent their being sodden with our heavy summer rains.

NAMES OF PLANTS—*H., Lancaster, O.*—*Acacia Farnesiana*.—This tribe of Acacias has the flowers somewhat different in appearance to the usual New Holland forms.

LEAF PLANTS FOR A WARDIAN CASE.—*Mrs. L. P., Russell, St. Lawrence Co., N. Y.*—Ten handsome leaf-plants of easy culture for a glass case, we would name Begonia rex, Tradescantia discolor, Tradescantia zebrina, Saxifraga sarmentosa, Hydrangea variegata, any one of the variegated Caladiums, 2 Ferns (1 Adiantum, 1 Pteris or Blechnum); Lycopodium, say L. denticulatum, cœsium, or arboreum; Variegated Periwinkle. This list will afford a great variety of form of foliage, color, and habit, bearing confinement tolerably well, and are plants that can be readily procured of almost any florist.

RICHLAND PLUM—*A Subscriber, Wilkesbarre.*—"I see in an advertisement in the *Monthly*, a notice of a plum called Richland. I would like to know whether this plum is worthy of a place in a small collection, and further I see the advertiser says it is free from the attacks of the Curculio. Now I would like to know whether there is any philosophy for such an

assertion. I have not been able to make up my mind that any plum could be considered exempt, unless it be too hard for them to penetrate.

[It is figured and described on page 154 of our first volume. No plum is "free from attacks of Curculio." The rot does not follow the attack in Bucks Co. In West Chester it does. The reason is not clear; but the fact indicates that the puncture of the Curculio is not in itself a sufficient cause of rot.]

ROSES IN A GREENHOUSE.—G. F., your roses have evidently suffered some injury to their foliage but we cannot judge from the circumstance you have detailed what is the exact cause.

STRAWBERRY WORM.—A Cleveland correspondent writes:—"In your December issue a subscriber inquires about a 'Strawberry Worm.' It is common here, and is the false caterpillar of a saw fly that I have failed as yet in identifying, as the pupa all died before being transformed. At present I have pupa, and hope to succeed better this time."

J. B., Baltimore.—Your leaf from the woods appears to belong to *Cypripedium acaule*.

GRAPE-MILDEW.—A correspondent from Bloomington, Ills., says Norton's Virginia mildews with him, and that the Concord does the same in Pope Co. We presume there is no kind but is at times liable to it,—some much more so than others.

THE WEED AND INSECT DESTROYER.—This is the name of a body existing at Nazareth, Pa. Mr. G. H. Bute, corresponding Secretary. They report favorably of their operations the past two years, though we have no account of the manner in which they operate, or the nature of their successful achievements.

INSECTS—B. S., *Mt. Vernon, O.*—We will endeavor to answer all your inquiries next month.

Books, Catalogues, &c.

RURAL ANNUAL AND HORTICULTURAL DIRECTORY. By Joseph Harris, Rochester, New York.

This is the sixth annual appearance of a very useful little volume. It contains treatises on

The Farmer's Kitchen Garden; Shade and Ornamental Trees; Management of Window Plants; Cultivation of Everlasting Flowers, Ornamental Hedges; Sulphur for Mildew on the Grape; Designs for Farm Houses, Cottages, Suburban Residences, Barns, &c.; Ornamental Fountains; Construction of Gates; Calendar of Operations; Cultivation of

the Pear, and one of the most novel subjects treated of is the Essay on Cacti and succulents as window plants, by F. A. Baller, which alone is worth the price of the work. The writer remarks:

"One very great cause of the failure and disappointment felt in the cultivation of window plants, is the lack of moisture, whereby ordinary greenhouse plants soon fade, turn yellow, and become stunted in their growth—not being able to keep up the excessive waste continually going on. So different is the atmosphere from that of a greenhouse, that they have in self-defence to part with foliage that they would have maintained in health and vigor, in more favorable circumstances."

Nothing is better suited for window plants than the innumerable members of this family, and we hope to hear more of them in this connection hereafter.

THE ILLUSTRATED SELF INSTRUCTOR IN PHRENOLOGY AND PHYSIOLOGY. We have received from the publishers, Fowler & Wells, Broadway, New York.

PROCEEDINGS OF THE SOUTHERN VINE GROWERS' SOCIETY at Aiken, South Carolina, held August, 1860.

This Society appears to have been a great success. Over one hundred delegates were present. Dr. Hume's account of his experiments in wine making received marked attention. We are pleased the society has met with such solid support, as it is one calculated to effect much good.

THE NURSERY CATALOGUES of our friends begin to crowd in on us within the past few days; we have received of Marshall P. Wilder, Dorchester, Mass.; General List. Thos. Morgan, Lyon's Farms, N. Y.; Flowers. Robert Buist & Son, Phila.; Trees and Shrubs. W. Sumner, Pomaria, S. C.; General Stock. A. Bridgeman, Broadway, N. Y.; Flower Seeds. W. Perry & Son, Brigeport, Conn.; Grapes. H. A. Dreer, Phila.; New Verbenas, 1861. Darling-ton & Co., West Chester, Pa.; General List. J. F. Hill & Co., Indianapolis, Ind.; General List. Joshua Peirce, Washington, D. C.; Small Fruits. W. P. Shepherd, New York.; various Catalogues of foreign firms. W. Tompkins, Germantown, N. Y.; Grapes and Small Fruits. John Perkins, Moorestown, N. J.; General List. Dr. E. Taylor, Cleveland, O.; General List. D. Landreth & Co., Phila.; Schmitz Dahlias. Larison & Holcomb, Lambertville, N. J.; Fruits. W. Mann, Bangor, Maine.; Evergreens. Hatch & Co., Natchez, Miss. J. M. Jordan, St. Louis, Mo.; General List. W. R. Prince & Co., Flushing, N. Y.; Greenhouse Plants.

LANDRETH'S RURAL REGISTER and Almanac for 1861, D. Landreth & Son, Philadelphia. Contains a very complete calendar of work to be done on the

farm, kitchen garden, greenhouse and flower garden throughout the year, besides the usual list of vegetable seeds sold.

THE VALLEY FARMER,—Published by N. J. Colman, St. Louis, Mo., is one of the best Agricultural Journals published. We presume all the principal agriculturists in the West and South-west own a line in its subscription-book. We would at least commend it to the attention of those who do not.

THE CINCINNATUS of Cincinnati, one of our standard Agricultural and Horticultural exchanges has passed into new hands, and will in future contain with its usual agricultural excellence, a department devoted to the Mechanic Arts.

AMERICAN BEE JOURNAL.—Published by A. M. Spangler & Co., 25 North Sixth Street, Philadelphia. — The first number has just been received. It is published in neat style, and as it is confined entirely to a subject just now exciting interest, it will prove a boon to Apirians.

FARMERS' HIGH SCHOOL, Penna. Report for 1860, is a gratifying exhibit of success and usefulness; we are much indebted for the Essay on the Source of Nitrogen in Plants, to which we shall refer hereafter.

MINER'S RURAL AMERICAN, of Clinton, N. Y. We accidentally omitted from our list of excellent agricultural publications last month. It is one of the best issued.

GARDENERS' PROGRESSIVE SOCIETY OF PHILADELPHIA. We are indebted to the kindness of Mr. Walter Elder, for the Essays and Discussions of this Society for the past year.

It is a neat little pamphlet of 129 pages.

Mr. Elder has left some copies at our office for sale to those who may wish to procure them. It will be found to contain interesting essays by C. H. Miller, on gardeners and gardening in America; Wm. Saunders, ventilation of glass structures; C. H. Miller, Manuring and Subsoiling; Walter Elder, deterioration of fruit; John Landers, causes of the deficiency in color and flavor of the exotic grape; Prof. Stevens, manures; W. Grassie, mildew; R. R. Scott, small fruits; Jas. Eadie, habit in plants, and discussions on a variety of other very interesting topics.

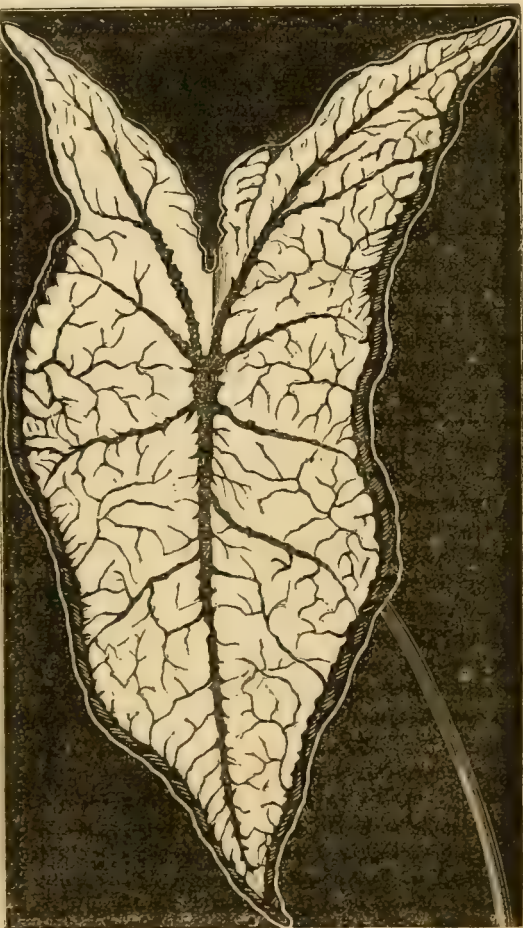
BOOK CATALOGUE. Messrs. Randolph, of Richmond, Va., send us a Catalogue of books on Agriculture, Horticulture, &c., that we take to be perhaps the most extensive list published in the Union. It embraces *five hundred* different works on these subjects. Amongst other things we notice "Wells' Manual of Scientific Discovery for 1860," about which a correspondent recently inquired.

HORTUS LINDENIANUS. We have received through

the kindness of Mr. J. Linden, of Brussels, Belgium, two numbers of his *Hortus Lindenianus*, which contain very beautifully colored illustrations of some of the finest new plants introduced by him. We are pleased to learn that Mr. Linden has just been appointed director of the botanical and horticultural department of the Garden of Acclimation at Paris, and that he is about forming a department for the introduction of new plants, fruits and vegetables on an extensive scale. The example of the French government in aiding this enterprize is worthy of imitation.

New or Rare Plants.

CALADIUM BELLEYMEI.—In the collection of Jas. Dundas, Esq., of Philadelphia, we frequently notice new plants almost as soon as they are announced in England. Under Mr. Pollock's good management, they are not long in being metamorphosed from "little bits" to mammoth specimens.



Here we now have one of the newest of the *Caladiums*, and one of the most striking. Our engraving is one-half the size of nature. The veins and margin of the leaf are light green, and the body of the leaf pure white, as our cut represents. *Caladiums* usually require a moist stove-heat in winter to grow to perfection, and partial shade agrees best with them.

CISSUS VELUTINUS is a new species from the Malay Islands. Nearly allied to *C. discolor*; the leaves not quite so interesting, but the flowers larger.

ANÆTOCHILUS INORNATUS.—From Ceylon. A variety of, and not quite so handsome, perhaps, as *A. setaceus*.

SALVIA SCABIOSEFOLIA.—A species from Russia, with tall spikes of greenish-pink flowers, and will, perhaps, make an interesting addition to our hardy herbaceous plants.

SARCANTHUS PARISHII.—An epiphytal orchidaceæ, from Moulmaine, rather pretty, and flowering in August.

CYRTANTHUS SANGUINEUS.—A new bulbous plant, allied botanically to *Crinum*, but with red flowers of something the habit and appearance of *Tigridia*. It is handsome, and will be popular. Introduced by Mr. Backhouse, from Caffraria.—*Bot. Mag.*

NEW DAHLIA.—*Schmitz's Conqueror of the Whites*.—We have received from Messrs. Landreth & Son, of Philadelphia, a lithograph of this, we believe, the best white dahlia ever raised.

Obituary.

DEATH OF EX-PRESIDENT WALKER, of Mass.—When calling attention to Mr. Walker's new pear in our last number, we little expected to announce his death in this. At the Mass. Horticultural Society, Hon. M. P. Wilder feelingly announced his decease in the following terms, and the society passed appropriate resolutions, expressive of their loss:

Mr. President—But a few months since I stood before you to announce the death of one of our oldest and most respectable members. And now an inscrutable and all-wise Providence calls me to make known to this Society the afflictive dispensation which has removed from us another of our shining lights, and again thrown the mantle of sorrow around us.

I allude, sir, to the Hon. Samuel Walker, who died at his residence in Roxbury, on the evening of Tuesday last, and whose precious remains were borne by us, yesterday, to his favorite Auburn, and there committed to the bosom of his mother earth—"earth to earth, ashes to ashes, dust to dust,"—a

spot which was ever dear to him, and which will forever be hallowed in our affections.

Mr. Walker was one of the earliest and most influential members of this Society. For nearly thirty years he has been deeply interested in its objects, and ardently devoted to its welfare. Among the offices which he held were those of Treasurer, Vice President and President, and during this long period his name has annually been associated with us in some official capacity.

He was of foreign birth, but was truly American and national in his feelings. He was one of the founders of the National Pomological Society, for many years a Vice President, and at the time of his death the Chairman of the General Fruit Committee of that association. He also held offices of honor and trust in his own city and county, and in the Commonwealth.

Mr. Walker was in most respects a model man. In perception, quick and accurate—in taste, intuitive and refined—in manners, unassuming, courteous and polite—in duty, conscientious, faithful and judicious—in life, earnest, exemplary and practical. As a friend and companion, he was genial, sympathetic and confiding. His heart was full of love to others, and often have I heard him remark—"he that would have friends must prove himself friendly to others."

In connection with the last remark of Mr. Wilder, in the extract we have given, we append the following extract from the last letter we ever received from him:

"I tender you my hearty thanks for the opportunity you have afforded me of perusing the kind letter of our mutual friend Dr. Brinckle, which I herewith return. I am pleased that you should all esteem my pear so highly, though I must say, that I think it 25 to 30 per cent. below its standard, but if I have any fruit next season, shall, if I am living, send you some again. For the reason you state, it would not be well to name the pear as you wish. I have many old particular friends whom I much value, and I would not disappoint or do injustice to any one of them. I have, therefore, decided to give it a name that shall be national and acceptable to all, and I propose to call it 'Mount Vernon' (Walker's.)"

It would be pleasant could we all be as thoughtful of respecting the feelings of our friends as Mr. Walker, and it would be well for our young readers to commit to memory the beautiful lines of Cowper:

"Who seeks a friend, should come disposed
To exhibit in full bloom disclosed
The graces and the beauties
That form the character he seeks,
For 'tis an union that bespeaks
Reciprocal duties."

YALE AGRICULTURAL LECTURES.

Apprehending the effect of political excitement in diminishing the interest and usefulness of an Agricultural Convention, it has been decided to postpone a repetition of the "Yale Agricultural Lectures" to another year. The regular lectures of the Institution in Agricultural Chemistry and the General Principles of Agriculture will be given as usual, commencing February 1st.

ILLINOIS HORTICULTURAL SOCIETY.

The State Horticultural Society met at Royce's Hall. Mr. Sam'l Edwards in the chair, and Mr. A. B. Galusha acting as Secretary.

The first item discussed was, the leading varieties of trees for ornamental and economic parts of the State.

Mr. Overman suggested the Cotton Wood as the most available of the deciduous trees. Large trees can be raised in a few years. The wood is valuable for fuel, and even for rails. He has had rails that lasted for years.

Mr. Phoenix and Mr. Minkler agreed in the main with Mr. Overman, and the Society resolved to recommend the Cotton Wood for planting in groves, for shelter, and for shade for animals.

Mr. Phoenix would speak of the Golden Willow. It is a desirable tree wherever it is hardy enough for culture, probably all through the State. It is easy of propagation, and the timber is valuable for posts, and even for rails. It will grow rapidly and of large size. He has seen long rows of it in La Salle County. Its rapid growth and its beauty recommend it.

Messrs. Overman, Phoenix, and Whitney spoke in its favor, and the Society voted to recommend the culture of the Golden Willow for the same purposes as Cotton Wood.

Mr. Overman introduced the Silver-leaved Poplar. He said it was beautiful in the street, but objectionable in lawns and cultivated grounds.

Mr. Phoenix thought there was a variety that did not sucker. Mr. Galusha thought that trees from seed would not sucker as

bad as those from cuttings. Other members gave their opinions, and the Silver Poplar was recommended as a tree for the roadside.

Of the Silver Maple it was said by Mr. Galusha—The seeds ripen in May, varying according to the season. They should be gathered sooner than they fall, for bugs eat out the kernel. He gathers them from the surface of streams, from caddies and bays in the shore; has taken up a bushel in fifteen minutes. The seed must be planted almost immediately, between layers of moss, they may keep for a week, but generally only three or four days. He plants in a line in well-purified soil, thrusting them with the thumb and finger to the depth of the wing, in two to four inches apart; they may stand two years. They seldom form tap-roots. In the first season they grow eighteen inches; has had them grow four feet.

Mr. Higgins, of Macoupin—The seeds in his county drop in April. He can keep the seed two or three weeks; he has them gathered dry, by boys. The ground is prepared as for corn; the seed is dropped and covered one inch deep. Too little moisture will kill either before or after planting. The tree bears seed early, even in its fifth year. From five eight year old trees he has obtained two bushels; it grows fast, as fast as the Locust, and gives shade earlier in the spring. Some of the five just named were ten inches in diameter.

The Ash Maple or Box Elder was spoken of as a desirable tree, both useful and ornamental, and easily cultivated. It may be raised from saps.

Mr. Clark of Brighton has cultivated it successfully; it is hardy, and grows well; he has had trees of four feet in height from cuttings the first season.

A motion to recommend the Maples as a class, and especially the Soft, or Silver-leaf Maple, for all purposes of grove and ornamental trees, was agreed to.

Mr. Higgins suggested next the Catalpa for discussion, as a tree for Central Illinois. He raised them from seed; others from cuttings. Recommended.

On Elms there was a difference of opinion as to their merits in the State.

The Elms as a class were recommended for all the State. Mr. Snow proposed the Tulip Tree or Yellow Poplar, improperly so called.

Mr. Overman said—The Tulip Tree is the most magnificent tree, and has the first place as an ornamental tree for yards. It is free from all objection. It is said to be hard to transplant, but this is because of delaying too long, when a very young it may easily be taken up. Its roots spread far, has seen them 100 feet from the trunk. He has known it injured by severe frosts.

The seed is in a cone; if obtained from miniature trees, it is defective. The seeds must be sown very thick in the spring; in the fall of the first year they must be taken up and protected. It cannot be propagated by cuttings or layers.

The Tulip was recommended as an ornamental tree, and the Linden for general purposes, all through the State.

Mr. Freeman would recommend the Black and Sweet Gum for the south of the State. His suggestion was adopted.

Mr. Phoenix thinks the Cucurber Tree—a species of Magnolia—worthy of trial. The European White Birch is very desirable, as are also some American Birches. He would recommend them for trial.

The Beeches were spoken of with approbation.

The Chestnut was named. Mr. Phoenix said that it is in demand and can be cultivated prosperously.

Mr. Edwards has raised the American Chestnut in Bureau Co., despite the winters, while the Spanish has suffered severely.

The Sycamore was recommended for fuel and ornament without debate, for the whole State.

Mr. Galusha proposed the White Walnut for its value, especially for timber.

Of the Black Walnut Mr. Snow says that if planted in a furrow two feet distant, it will make a perfect fence against cattle. Recommended for Northern and Central Illinois.

The Austrian and Scotch Pines were discussed.

Several members spoke of failing with them when fall-transplanted, but they were recommended for general culture.

Mr. Galusha offered the following, which was adopted:

Resolved, that evergreen trees in nursery should not be allowed to stand longer than three years without removal or root-pruning. The Norway Spruce was next spoken of.

Mr. Phoenix has raised from the seed successfully; would soak evergreen seeds three or four days in varnish-water; perhaps this is not necessary. The difficulty with evergreens is "burning-off," the effect of the hot sun in the first summer, he believes he can succeed whenever he has sufficient shade and water. Has always sowed the seed late in May or June, but has come to doubt this practice. An early start is desirable. He has not experienced sufficient to recommend any course; his opinions from his experiments are against prevalent views.

Dr. Kennicott has known them raised with great painstaking; too much shade and moisture "dampening off" is the trouble. A gardener in Lake County has mixed sand with his seed when that threatened.

Mr. Shaw has had trouble raising Norway Spruces from a little black beetle, that eat them off while small—a great jumper; jumps like a flea.

Mr. Galusha moved to recommend the Norway Spruce as the best evergreen; which was agreed to.

The Balsam Fir provoked a brisk controversy, but it was recommended for the northern part of the State.

The Hemlock was praised by many members; but the difficulty found in getting these from the woods to grow, made it expensive.

Mr. Bragden moved a resolution, that it is the most graceful of evergreens, and the most difficult to raise, and that it be recommended to those that can afford it. Agreed to.

The Red Cedar Mr. Overman has not succeeded well in raising from the seed. The seeds must often lie in the ground two years. A larger share of these than of other evergreens will grow without shade. The best plan is to plant them in boxes, and let them freeze two winters; keep them one or two years in the box. It grows more in the first year than any other evergreen; thinks the seeds must be frozen; never tried planting in wood-ashes; thinks nature has a process for germinating them more rapidly; that seeds passing through animals or birds will germinate early.

Red Cedar was recommended for extensive cultivation for low screens.

The American Arborvitae was recommended for screens and hedges.

The Trailing Juniper and American Yew were recommended for lawns.

The Siberian Arborvitae was recommended for ornamental purposes. Dr. Kennicott remarked that when it becomes cheaper, it will supersede the American.

Mr. Clark spoke of the Chinese Arborvitae as a fine variety; improved by trimming.

The European Larch was recommended as an ornamental tree.

Mr. Chase has heard that White Pine and Hemlock grow best if cut close at the time of transplanting. Is it so? Most that gave any opinion strongly dissented.

Fruits were next taken up, and first the Strawberry.

Mr. Galusha named the Wilson's Albany as most prolific. Neck Pine bore neglect well. Hooker he preferred for flavor.

Mr. Kennicott would take Neck Pine and Virginia.

Mr. Galusha is satisfied to raise the Wilson's Albany as long as he can sell them at fifteen cents per quart, or even at ten cents. The Neck Pine needs staminate plants near to impregnate them. Mr. Galusha inquired if any member has fruited the Triomphe de Gand.

Dr. Warder said the Triomphe de Gand is rather a poor bearer; all the runners should be cut off. Plant the Neck Pine thirty feet apart, and let it run; protect with a little straw, and you will hardly take pains to cut runners. I have seen this "contemptible Neck Pine" six inches in circumference; but that was an accident. The Wilson's Albany is a fine bearer; bears neglect nearly as well as the Neck Pine, but he does not like the flavor. It is one of our best staminate varieties.

Mr. Galusha moved to recommend the Neck Pine, Wilson's Albany, and Early Scarlet. The Wilson's Albany an account of its fertility, every flower being hermaphrodite.

The McAvoy, Superior, and Longworth's Prolific were recommended for amateur culture, and the Extra Red for trial.

On Currants Dr. Kennicott said—To have fine currants, you must cultivate them nicely, and make the soil rich. The Red and Black Currants bear manure better than any other Small fruit. They should be kept clean, trimmed well, set three feet apart in rows six

feet apart, and never set in the shade, except to prolong the season. Mr. Overman asked whether shade is not necessary to prevent a kind of blight.

Dr. Kennicott has seen it only on weak or old plants. In Central and Southern Illinois shade may be necessary.

The Red Dutch, the White Dutch, the Victoria, and the White Grape were recommended, except for the extreme south of the State. Grapes were next brought up.

Mr. Whitney spoke of the Diana as doing well in the north of the State, making a fine grape, hardly distinguishable from the Catawba. He would never recommend for general circulation in Northern Illinois the Isabella and the Clinton.

Mr. Whitney's motion prevailed.

Mr. Shaw would recommend for Central Illinois the Catawba, Clinton, and Concord.

Mr. Huggins moved to include the Isabella, Mr. Barry concurring, as it thrives in his culture at Alton.

Mr. Shaw accepted Mr. Huggins' amendment, but under protest that such is not his opinion.

The recommendation of Messrs. Shaw and Huggins was adopted. Mr. Freeman recommended for Southern Illinois the Catawba, Herbermont, and Norton's Virginia Seedling.

Dr. Schroeder said that the Missouri growers now call the last-named Hermann's Red Diamond.

Mr. Freeman grafts upon wild grape roots, in the spring, after the grape leaf is developed. Next year the wild root may be dispensed with by rooting in the grafted scion.

Mr. Freeman's recommendation for Southern Illinois was adopted. Dr. Warder would recommend that the Delaware vine be tried extensively; that is, by many persons; but not much by any one until it is cheaper, and until its qualities are better tested; at present it seems likely to be deemed the very best of grapes.

Raspberries.—Mr. Huggins would recommend for Central Illinois at least, the Allen Raspberry. Has had it for several years; it is hardy, an annual bearer, very prolific, and good. Its forming suckers is objected to; just treat them as weeds and clear them out.

The recommendation was agreed to.

Mr. Galusha moved to recommend for North and Central Illinois the Black Cap and the Purple Cane.

Dr. Warder says that it is not a new Raspberry, but has long been known under various names, and is always a favorite.

The recommendation was adopted.

Dr. Schroeder finds the Belle de Fontenay the best of nine varieties that he has; they were planted in low ground, four feet apart, and it is very sweet. He moved that it be recommended for Central Illinois. Agreed to.

Mr. Phoenix spoke in favor of the Orange Raspberry, for size, beauty and flavor it is superior; it is tolerably hardy.

Mr. Huggins never could get a mess from fifty or sixty plants of it. Others had had similar experience. It was said to be much approved along Lake Michigan, and in various northern localities.

Dr. Warder—Burying in the dirt don't pay; it is too much trouble, and there is risk of breaking the plants or of their being frosted or burnt. He cuts off his canes to six inches and turns a furrow against them. But trimming makes them late.

Mr. Phoenix—Along the Hudson River they take great pains to bury their raspberries, and realize five hundred dollars an acre by sales to New York.

The Brinckle's Orange was recommended for amateur culture in Northern and Central Illinois.

Mr. Galusha moved to recommend, of Gooseberries, the Houghton's Seedling and the Pale Red. The latter is known by several names. He sets the Houghton's Seedling in rows six feet apart, plant five feet apart. After gathering fruit, he spades the ground, mulches in the fall with litter and manure, and after the fruitage removes the straw and renews the process. Thus he gets large fruit. He thinks this fruit much neglected; it is bottled easiest of all fruits, and fine for culinary use.

Mr. Bragden says it is the most profitable of the small fruit for sale in Chicago market.

Dr. Warder—This berry sells best when it is half-grown. In Ohio they rake off the berries, with a little wire-rake, upon sheets spread under the bushes. For family use they make the best kind of tarts, pies and preserves—after they get ripe; he wouldn't touch them before. When green, they are sold at one dollar a bushel in Cincinnati.

The Gooseberries named were recommended.

Mr. Huggins moved to recommend the Lawton Blackberry for Central Illinois. It is fruitful, hardy, and very luscious when fully ripe.

The recommendation was adopted.

The Committee on Cherries for Northern Illinois recommended the following:—Early May, Belle de Choisy, Belle Magnifique, May Duke, Late Duke, and Reine Hortense.

Dr. Kennicott moved to add the English Morello. The Committee agreed, and the list was recommended.

Mr. Huggins moved to recommend the Myatt's Linnaeus and the Victoria Khabarb for general culture. He also regards the Early Tobolsk as a valuable variety, because of its earliness, and it can be pulled all summer. It also requires less sugar than other sorts. It is small, and not the best for market. The Linnaeus is good all through the season and productive. The Cahoon is utterly worthless; he will not have it in his place. The varieties named were recommended for qualities named.

On motion of Dr. Kennicott, the Cahoon's Seedling was unanimously rejected as utterly worthless for general cultivation.

The following were chosen Officers for the next year:

President—Dr. J. A. Kennicott, of Chicago.

Vice-Presidents—Dr. E. D. Ritto, J. W. Wakeman, S. G. Minkler, Nathan Overman, J. H. Stewart, J. Huggins. — **Hostetter**, Charles A. Kennicott, and G. H. Baker,—one from each Congressional District.

Corresponding Secretary—O. B. Galusha, Lisbon, Kendall Co.

Recording Secretary—H. C. Freeman, South Pass, Union County.

Assistant Recording Secretary—C. T. Chase, Chicago.

Treasurer—S. G. Minkler.

MERAMEC HORTICULTURAL SOCIETY.

The following are the officers of the Meramec Horticultural Society for this year:

President—Dr. L. D. Morse, Post Office—Allenton, Mo.

Recording Secretary—William Muir, P.O.—Melrose, Mo.

Executive Committee—T. R. Allen, Dr. A. W. McPherson, and L. D. Votaw.

Corresponding Secretary and Librarian—T. R. Allen, Allenton, Mo.

CHICAGO GARDENERS' SOCIETY.

The Annual Meeting of the Chicago Gardeners' Society was held at their rooms in Metropolitan Hall. The following officers were elected for the ensuing year:

President—C. D. Bragdon.

First Vice-President—D. Worthington.

Second Vice-President—C. Layton.

Secretary—Edgar Sanders.

Treasurer—John C. Ure.

Executive Committee—J. Worthington, J. C. Ure, J. C. Grant, A. F. Williams.

Librarian—William Lumbard.

The President, on taking the Chair, made a few appropriate remarks, in which he referred to the meeting of the State Horticultural Society, which is to take place in this city in December next, and pressed upon members the necessity of preparing themselves.

Messrs. Kennicott, Sanders and Chase were appointed a Committee to Revise the Constitution and report to the next meeting.

The Committee on Procuring a Herbarium reported progress.

Mr. Wakeman's paper on Fruit Culture was deferred until the next meeting, January 21st, to which time the meeting adjourned.

CONNECTICUT GRAPE-GROWERS' CONVENTION.

The Annual Meeting of the Connecticut Grape-Growers' Association was held at the New Haven House, New Haven, January 5th. After the reading of the annual reports, the ballot for officers resulted as follows:

President—Col. D. S. Dewey, of Hartford.

First Vice-President—C. S. Middlebrook, Bridgeport.

Second Vice-President—E. A. Holcomb, Granby.

Secretary—M. C. Weld, Hartford.

Treasurer—William H. Risley, Berlin.

Voted, That the Association offer Premiums for Grapes and Wines presented at the next Annual Meeting; and that the officers of the Association be a Committee to carry out the design of this vote, at their discretion.

The following resolutions were unanimously adopted:

Resolved, That it is the opinion of this Society that these tried varieties, the Isabella and Catawba Grapes, ripen well in many parts of this State—especially along its southern shore, but that, unless the situation be very favorable, neither (and particularly the Catawba) will ripen in its more elevated portions.

Resolved, That the Hartford Prolific and Concord are grapes that will generally ripen well throughout the State, and hence are to be recommended.

Resolved, That the Diana Grape has been quite extensively tried and approved, and is to be recommended as quite sure to ripen in all fair exposures and for its great excellence.

Resolved, That the Delaware Grape now promises exceedingly well, but has not extensively fruited that we can, from personal knowledge, give positive assurance that it is worthy the high character claimed for it by many.

Resolved, That the Rebecca Grape has been sufficiently tested to show that it is a fruit of good promise and excellence; hardy and likely to ripen, at least, in good exposure.

Mr. E. S. Elmer, of Hartford, presented three varieties of grapes—Dianas, Isabellas and Catawbas—preserved in cork-dust. The Dianas were remarkably plump and fresh, showing a peculiar excellence in that variety.

A sample of wine, made in 1898, from the juice of the Hartford Prolific Grape with the addition of 1½ lb. of good brown sugar to the gallon was tried, and universally pronounced a remarkably fine dry wine.





Conotrachelus nemoralis Ills.
Plum Weevil

Baridius 3 notata
Potato Vine Weevil

Rhinoceros
Zinnia arvensis



Pterostichus punctulata



Macrodactylus subspinosus



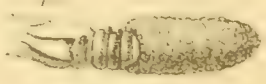
Pterostichus



Pterostichus



Proctos *Colombia*



Agropyrum *artense*

THE GARDENER'S MONTHLY.

DEVOTED TO

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THOMAS MEEHAN, EDITOR.

MARCH, 1861.

VOL. III.—NO 3.

Hints for March.



FLOWER GARDEN AND PLEASURE GROUND.

MANY things that appear frosted a little at the tops should be severely cut down; it will prevent disappointment in the end. Shoots that are injured in winter—especially in the case of the rose—will often have just sufficient vigor left to enable them to put forth leaves, and sometimes even go so far as to attempt to flower, and then die off suddenly under the first hot sun.

This is the proper season to lay down box edgings. To make them properly, the soil along the line of the edge should be first dug, and then trod very hard and firm, so that the soil may sink evenly together, or the line will present ugly looking undulations in time. Rooted plants should be employed; cuttings are sometimes used, but frequently die out in patches,—a good edge can rarely be made from them. The plants should be set pretty low down, leaving the plants, when set, one or two inches above the soil, according to their stockiness. Sometimes box-edgings are laid around beds formed in grass. When so, a few inches of clear ground should be kept clean between the grass and the box, or the weeds will be so intermixed with the box after a while, as to render it a nuisance.

Walks should now have their spring-dressing—the verges cut, and a thin coating of new gravel laid on. Before putting on the new, harrow up the face of the old gravel with a strong iron-toothed rake. Roll well after the new is laid on.

Planting trees will require particular attention now; but do not be in a hurry the moment the frost is out of the ground. Cold winds are very hard on newly set out trees. Wait till they are gone. Always shorten in a little the shoots of all trees planted.

They will grow the faster for it, and are more certain to live. Evergreens should be left to the last.

As soon as the frost is thoroughly out of the ground, and while the surface is yet soft, lawns should have a thorough rolling, which will not only tend to level the surface, but also press into the earth the roots of any of the finer grasses that the frost may have drawn out. Lawns frequently become coarse, by this operation of the winter season. If the grass is poor and thin, a top-dressing of guano and salt may be applied before the rolling. Stable manure injures fine lawns by introducing coarse weeds. Soot or wood-ashes are excellent for giving lawns a fine green color. In making new lawns a deep soil is very important. In shallow soils the soil soon dries in hot summers, and the lawn becomes brown when its green is the most desirable.

FRUIT GARDEN.

It would be impossible to recommend to our readers the best fruits to grow, any more than the best flowers,—local circumstances having much to do with the comparative value of fruits; but the following six in each class will be found under most circumstances reliable and worth growing:

GRAPES—Isabella, Concord, Diana, Delaware, Clinton, and for a white probably Taylor's Bullitt, though it has not been tested to the extent we desire for recommendation in this column.

CURRENTS—Red Dutch, White Dutch, Black Naples, May's Victoria, Versailles, and the Cherry to "look at."

RASPBERRIES — Orange (Brinckle's), Catawissa, Franconia, Belle de Fontenay, Allen, and true Red Antwerp.

STRAWBERRIES—Hovey's Seedling, Albany Seedling, Triomphe de Gand, Longworth's Prolific, Early Scarlet, Peabody's Seedling.

APPLES FOR DWARFS—Gravenstein, Red Astrachan, Indian Rarissime, Fall Pippin, Lady Apple, Bough.

STANDARD APPLES — Baldwin, Rhode Island Greening, Early Harvest, Smith's Cider, Fameuse, Porter.

PEARS FOR DWARFS—Belle Lucratif, Louise Bonne, Beurre Superfin, Rostiezer, Beurre d'Anjou, Urbaniste.

STANDARD PEARS—Bartlett, Seckel, Beurre Giffard, Sheldon, Lawrence, Beurre Diel.

PLUMS—Jefferson, Washington, Green Gage, McLaughlin, Bleeker, and Prince's Yellow.

CHERRIES—May Duke, Black Tartarian, Early Richmond, Governor Wood, Downer's Late, Coe's Transparent.

PEACHES—Early York, Late Heath, Crawford's Late, George IV., Crawford's Early, Morris' White.

We have before remarked that fruit trees and bushes should invariably be cut in severely, and not allowed to bear the same season of planting. It is a fatal mistake to look for fruit the same season of setting out the trees. This is at the expense of future growth, and without future growth there will be no future crops.

Raspberries, Blackberries, &c., frequently bear and die when so treated. The canes should be cut back to a few inches on transplanting. Raspberries for fruit in fall should always be pretty well cut back. It is not essential with the regular fall-bearing kinds, but it aids them much.

Grape-vines in the open air, on arbors and trellises, should have their pruning finished before warm spring days set in, or they will bleed. It does not injure them much, but it looks bad. The pruning must be regulated by the condition of the vine. If the vines are young and the shoots weak, cut them all back, to make a new and vigorous growth. If already a fair quantity of strong shoots of last season's growth exists, cut out the weaker ones, so as to leave enough of stronger ones. The cane system, slightly modified, is best for arbors and trellises in the hands of amateurs generally. This implies a new set of canes every year or two. If, as frequently happens from bad management, all the young and strong-bearing wood exists only at the end of the vines,—and these latter have become nothing but long,ropy-looking apologies for what a vine should be; the whole cane may be buried down in the soil to where the strong shoots spring from, and the young wood of last season trained up from this. The plant will then recover its good appearance quite as well as by cutting down, with the advantage of not sacrificing a year's crop of fruit.

Many kinds of raspberries, especially in dry soils, have a tendency to throw up innumerable suckers. These should be thinned out. Three or four canes are enough to leave in a "hill." We like, however, to grow raspberries in rows, where each cane may have a chance to enjoy an independent existence of about a square-foot of soil for itself.

The strawberry, also, pays well for being well thinned out. Formerly Cincinnati used to carry off the palm for strawberry culture. All the thinning they there get is by horse-harrowing them. Fifty

bushels to the acre, under that system, was thought to be a fair average crop; but other localities, by a careful system of hand-culture, in thinning and cutting away runners, have borne away the palm from the Queen City of the West, and boast of their two hundred bushels to the acre, and above.

FORCING.

In our March number for 1859 we gave the following hints under this head, which, as the facts relating to the necessity of healthy foliage are not generally recognized, and also as nearly two-thirds of our present readers were not then subscribers, it will be novel to many to repeat:

"The earliest houses will now have their grapes about stoning, which is one of the most critical periods of the fruit season. If any check is experienced, the grapes will be small, or perhaps fall off altogether. If they do not fall, they stand still for some weeks, and thus are not only inferior in size, but they are so much later than they otherwise would be. The temperature should be raised, if any thing, and particular attention paid to its regularity, as well as so the regularity of the atmospheric moisture and air. The foliage, also, should be carefully guarded from the injuries of mildew, insects, or other evil. Many more diseases than gardeners think for are caused by injuries to the foliage. The *first* leaf that appears should be the one the *last* to fall, as near as may be. The nearer this can be achieved, the healthier will the vine be, and the more certain will it be to carry its fruit through to perfection. Some will depend on their soil, others on their pruning, others on the build of their houses, others on their general management, and each class fancy their success has depended on these matters, because others who had not paid attention to these matters failed. But the probability is in every case, that the vines did well, because, from some chance, the foliage remained healthy.

"A stock of fruit trees for next year should now be potted in 12-inch pots, choosing those which will make the handsomest trees. It is only a matter of course to repeat that the soil should be coarse and open, and well-drained. After potting, they should be severely pruned into shape, and the pots plunged into any spare piece of ground where they will be sheltered from the wind. Here they may remain all summer, being taken out and re-set in the plunging place about twice during the season, to break off any roots that may be growing through the hole in the bottom of the pot.

"Grapes, in pots, intended for next year's fruiting, should, of course, be kept in the house to grow all summer. Those who have not the advantage of any

but a cold house, or with but a very little heat, may start vines for pot-culture about this time. Choose good strong plants in six-inch pots from last season's eyes. Cut them down to one strong eye, and set in the warmest part of the house. As soon as the eye has pushed forth into growth an inch, shake it out of the pot, reduce the fibres, and repot into a 12-inch, with rich, coarse, turfy soil, well drained. Keep it as warm as possible, and as soon as it has grown six or eight eyes in length, pinch off the point. This will induce the part left to grow stocky, and, if care be taken to keep the leaves healthy through the year, these eyes, though close to the pot, will produce nearly as good bunches as those on the top of the vine. After the pinching, the shoots that afterwards becomes the leader may be allowed to grow five or eight feet long before finally stopped."

GREENHOUSES, &c.

At this season of the year the aphid, or green-fly, is one of the most troublesome of nuisances, though all insects are more or less active at this life-invigorating time. So many modes of destroying insects have been given in our last volume, that the cultivator of plants has a good choice to please his taste from. Where green-fly prevails badly, and is pretty general through a house, nothing is better than tobacco-smoke, as it penetrates easily and effectually through every part of the enclosure. Yet it is dangerous when in unskilful hands. Three light doses three successive nights are better for the plants than one strong dose, and the insects are more effectually destroyed. Any old vessel does to contain the tobacco-stems. The bottom of the vessel should have paper that has been steeped in a solution of saltpetre and dried, put in the bottom, to be lit when ready. This is much better for the plants than the live coals often used.

Be careful of houses taking fire. Every week we hear or read accounts of such losses. Wood will, in the course of time, take fire a long way from the furnace or flue. While it is new, there is little danger, even if the wood is nearly in actual contact with the work, but every year adds to the risk.

We have seen wood-work take fire *four feet* from the flue, that had already been there several years safely before. Of course, iron should be preferred wherever practicable in all places where danger may be apprehended; and, in some instances, it is cheapest without the usual cautious provision of in the "long run." For gangways in conservatories, for instance, we have seen oaken work employed that could not have cost less than ten or fifteen cents per foot, when cast-iron, at three or four cents per pound, would certainly be cheaper. The pathways in

the conservatory of Captain H. Ingersoll, near Philadelphia, afford an excellent illustration of the relative value and cheapness of iron over wood.

There is no doubt about plants requiring all the sun-light they can get; and they should be frequently turned round, so that every part of the plant, in turn, should profit by its influence.

Continue to watch for plants requiring repotting. When the oldest leaves on a growing shoot show symptoms of premature yellowness, it is usually the best sign that it requires nutriment. When the younger leaves become first yellow, the injury is traceable most frequently to external causes,—dry air, too much root moisture, escape of gas, &c.

Ventilation is very important; but at this season of the year, the top sashes only should be opened. Injury frequently results from opening doors or side sashes.

Fuchsias must be repotted as the pots become filled with roots. They like rich soil, and do best grown rapidly. The pyramidal form is the best to train them to; it suits their habit of flowering best. If they do not seem to branch out enough to make well-furnished cones, pinch out the leading bud, and train up a new one to replace it. Plenty of light and a rich soil, however, usually induces them to break freely enough. The following are six good old kinds, easy to be procured, that may do to start a collection with:—Guiding Star, Rose of Castile, Souvenir de Chiswick, Macbeth, Fairest of the Fair, Gem of Whitehall. Six newer ones for those who wish to be up to the times:—Sir Colin Campbell, Little Dorrit, Isa Craig, Flower of France, Leoline.

Calceolarias will soon be pushing up flower-stems, and as they are amongst the showiest of summer-blooming greenhouse plants, too much attention cannot be given. They suffer very much from a badly-drained soil. They have ceased to be a florist's flower here, and are raised annually from seed.

Of the new Verbenas many fine novelties are introduced this season. Amongst the best six good ones we may name are:—Madam Gonaud, Ocean Pearl, Garibaldi, Delicatissima, Baron Renfrew, Firefly. Mr. Dreer's seedlings, advertised in our last, we have only seen cut specimens of, which were decidedly good. Parties who have seen them growing tell us they are, besides, splendid bedders.

It is time Chrysanthemums are struck, if fine specimens are desired for fall-flowering in pots. The following are six first-rate pompones:—Fleur-ette, Brillante, Cote d'Or, Mignonette, Madam Martin, La Precieuse. Large-flowering kinds:—Virginia Mieliez, Remus, Cassandra, Eclipse, Vesuvius, Marshall Duroc.

It is time to start Dahlias. People got into a fashion, a few years ago, of setting out whole roots. These bloom very early in summer, about the time hot weather sets in, and are stunted before the cool weather of fall—the natural time for fine Dahlias. Ground-roots of last year should always be sprouted, and new plants raised from these sprouts as one would do with a sweet potato. A very good plan is to shorten the ends of the tubers so as to get the root within a reasonable sized pot, and, after covering with soil, set the pot in a hotbed or greenhouse. After a few weeks, several sprouts will appear around the stem. Then the whole root should be shaken, and the root divided through the crown, retaining a piece of root with a sprout. Then pot each piece into a separate pot, and set out in the open ground in May. Nurserymen who wish to propagate extensively, take off usually only the sprout, and treat it as a cutting; but for amateurs the above is the best way. Six good old Dahlias we would name:—Amazon, Unanimity, Dr. Gullez, Lady Cathcart, Col. Wyndham, Pre-eminent. Six first-rate:—King of Portugal, Duchess of Wellington, Adrain Carmaival, Prince Albert, Alba floribunda, Mrs. Edwards.

The good gardener will not, of course, forget what plants he will require for bedding purposes, and should any be found short, propagation will yet actively go on. Phlox Drummondii, Mignonette, Acroclinium roseum, Sweet Alyssum, Globe Amaryllises, German Asters, Browallia elata, Candytuft, Clarkias, Collinsias, Escholtzias, Erysimum, Fenzlia dianthiflora, Gaillardias, Gilias, Linum grandiflorum, Loazas, Lobelias, Lupines, Maurandias, Mimulus, Nasturtiums, Nemophila, Palafoxia, Phacelia, Salpiglossis, Thunbergias, Silenes, Stocks, and Whitlavia grandiflora are mostly annual flowering plants of considerable beauty, that are advantageously sown early in a greenhouse, to forward early to plant out in spring. They do better in a hotbed where that can be commanded.

Communications.

INFLUENCE OF FLOWERS.

BY S. L. B., BROOKDALE FARM, MAINE.

TRAVELLING recently through the northern part of Somerset county, I was obliged to remain for the night at the home of a couple somewhat advanced in life; the wife, however, many years younger than her husband, who having accumulated something of this world's goods, lived in a quiet and humble way, the husband working his small plot of ground and taking care of his pig and cow, and the wife devoting

her time to household pursuits, manufacturing domestic cloths, and tending her flowers.

The yard between their cottage and the public road was somewhat limited, and enclosed with the roughest board fence. This yard was completely filled with flowers, and although not arranged with much regard to correct grouping or display; and so closely set as to make it difficult passing among them, yet their many colored hues and fragrant odor rendered the spot very attractive and made a little paradise of the yard, contrasting wonderfully with the bleak and uninteresting scenery amid which their cottage was situated.

The collection embraced about sixty varieties, chiefly of the more common kinds, and the verbena, dahlia, petunia, hollyhock, geranium, &c., &c., were prominent among the list. It was evident that the flowers received a large share of the good lady's time, and I admired her love and admiration for them. "My husband," said she, "tells me I worship them, but I do not think I do; for, surely they are His flowers, and the work of the kind Creator; why should I not then love and admire them?"

Standing on each side of the walk near the rude gate at the entrance to the yard, were two horse-chestnuts (*JEsculus hippocastanum*), which are very uncommon in the vicinity, and the old gentleman looked upon them as a decided acquisition, not only from their extreme rarity, but because they were such a beautiful ornamental tree, and because he brought them himself from the State of New Hampshire. From this I inferred that the old gentleman had some natural love for trees and the beautiful in nature, and just said to him that I took pleasure in the culture of flowers and trees, and was glad to find his wife a lady of so much refinement and with such a love for the beautiful. "Well," replied the old gentleman, in his old fashioned way of speaking, "flowers be kinder pooty."

So it is the world over, in all countries, under any clime, among all tongues, with the rich and poor, flowers are objects of universal admiration and love. Their cultivation tends to improve health, purify the heart, elevate the affections, and ennoble man's nature. He who has a love for the culture of flowers cannot but be a person of refined feelings, religious nature and a generous life. If the rich man can indulge his fancy in having elegant conservatories and every rare and beautiful tree, plant or flower, so can the poor cottager or small farmer have his flower bed of limited size, and containing only the more common varieties, and the pleasure derived from its study and care, without doubt, will be as great as that which his wealthy neighbor enjoys.

Wealth is not necessary in order to have a taste

for flowers, yet a person of wealth can better show his love for them than one who has not the means for their extensive cultivation. Their influence is not confined to the wealthy class; they give a charm and beauty to even the humblest occupation, and convert the rough and uncultivated nature to one of refinement and gentleness.

ENTOMOLOGICAL ESSAY.

Read before the Fruit-Growers' Association of Eastern Pennsylvania at its Meeting in West Chester, on the 13th day of June, 1860.

BY S. S. RATHVON, ENTOMOLOGIST OF THE ASSOCIATION.

(Continued from page 7.)

INJURIOUS INSECTS.

WE come now to the consideration of a little insect which has despoiled the Fruit-grower of more of the products of his labor, and has given him more anxiety, perhaps, than all the insects we have heretofore named put together, and has thus far baffled all his skill and ingenuity in the discovery of a certain remedy to counteract its devastations. We allude to

24th. *Rhynchenus (canotrachelus) nenuphar*, Hbst. or "Plum Weevil." Very generally alluded to as the "Curculio." Plate III. fig. 1. Length about one-fifth of an inch; color dark brown or blackish, varied with spots of whitish or ochrey yellow; thorax uneven and rough; the wing covers have several short ridges upon them, forming a sort of a hump, behind which there is a band of ochrey yellow and white. This insect begins to deposit its eggs into fruit as soon as it is set, making a small crescent-shaped incision with its sharp little mandibles on the end of its snout, into which it lays an egg. The larva is a small, whitish, footless grub, very much like a maggot, except that its head is very distinct. The irritation caused by the presence of this grub in the fruit is the cause of its disease, and dropping prematurely from the tree; after which the insect burrows into the earth and completes its transformations there. Observers of this insect by no means agree in all the points of its economy, yet they are tolerably unanimous in condemning it as an arch destroyer of fruit, and especially the Plum crop. For this reason it is almost universally known as the "Plum-weevil," although it is also found in cherries. But it appears that it does not confine itself to these fruits, for, according to some observers and writers, it also attacks nectarines, apricots, apples, peaches and pears, although we must not confound the larva of the Apple-moth (*Tenia pomonella*) with that of the curculio. The former has six feet, whilst the latter is entirely footless. Dr. Harris says he has met with this insect in Massachusetts, as early as the 30th of March, and as late as the 10th of June. I have myself found large numbers of curculios of different species under stones on the sunny side of hills in the first week in March, and I have also found them in the fall under the same circumstances. It is pretty certain that they bring forth two broods in one season, and also that they undergo their transformations in the ground. On examining some plums lying upon the ground, on the first of June, I found that some of the larva of the Curculio had already left the fruit and gone into the ground. From this it would seem that those which are found in the green plum and the ripe plum, as well as those found in ripe cherries, apples, peaches, &c., are of different broods; for, according to the most reliable observations that have been made, it requires about three weeks to complete their transformations after they enter the ground. We dissent from the opinion that the insect under consideration is the cause of the warts or "black-knots" on the plum and cherry trees, although the larva of *this*, as well as other species of curculio, and also various species of "gall-flies" (Cynips), are found in these knots in their green state. In their dry and cracked state, they also form a shelter for curculios and other insects. Enough has been said and written in regard to the habits and peculiar economy of these insects, and yet there seems to be a lack of knowledge among the masses of men concerning them, and no certain remedy against them. All insects are endowed with instincts and capacities, which enable them and which lead them to make suitable provision for the preservation and perpetuating their species; and they will follow the lead of those instincts, unless baffled by supervening contingencies. None are more highly endowed in this respect, perhaps, than the curculio. The prudent female surveys the ground beneath the tree, and if she finds it a hard paved surface, a beaten path, a pond of water, or a pig-stye, or an enclosure for the retention of fowls, she rarely selects such a tree, or such part of it as overhangs such a conditioned surface, upon which to deposit her eggs. Her instincts teach her that her progeny would be trodden to death, or drowned, or destroyed by their enemies, before they could make their way safely into the ground. This characteristic of the curculio is so marked, that almost every observer is able to give examples of it; and this peculiarity, also, might suggest a partial means of preventing the destruction of the fruit crops, although it might not be a permanent cure, because a universal adoption of such a plan, without some means of destroying the insect itself, might

"drive it to the wall," and compel it to deposit its eggs *anywhere* or under *any* circumstances. Still, such a plan might, in time, so far diminish their numbers as to render them powerless for any material evil, or, at least, circumscribe its limits.

25th. *Baridius trinotatus*, Say.—"Potato-weevil." Plate III. Fig. 2. Length, three-twentieths of an inch; body covered with whitish hairs, giving it a grayish appearance; two black dots upon the hinder angle of the thorax, and one upon the scutellum, making three, from which it derives its trivial name. I was acquainted with this insect long before I knew it injured the potato. They lay their eggs in the axils of the leaves of the potato-vine, and the young grub, immediately after exclusion from the egg, burrows into the vine downward towards the roots, undergoing all its transformations there. The perfect insect comes forth in August and September. Having often found these weevils under stones and in crevices of fences, or under bark in fields and woods, I am led to believe that they remain active and survive the winter, depositing their eggs upon the potato the next season. They are said to remain in the pupa state only two weeks. They are becoming very common in Pennsylvania, although not much known in the Eastern States. Eating the heart or pith out of the potato-vine, they cause it to wilt, as if it were scalded, and have been known to be very destructive about Germantown and Philadelphia in 1849. Syringing the plants with water, or, immediately after a shower, sprinkling them freely with air-slacked lime, I think, would be as beneficial in this case, as I know it is in destroying aphids. *a* and *b* are the pupa and larva.

26th. *Rhyncophorus Zimmermani*, Schon. "North American Palm Weevil." Plate III. Fig. 3. Length, including extended snout, from one and a quarter to one and a half inches. Color, black, or dark brown, with black spots on the thorax, and one or more on each wing-cover; thorax smooth, and wing-covers deeply lined lengthwise. This is the largest weevil we have in the United States; a larger species, called the Palm Weevil, (*R. palmarum*), is found in tropical regions and South America and the West Indies. I have only introduced this insect here because of its large size, and in order to impress its *form* upon the mind of the reader. The larva of these palm weevils are large, yellowish, fatty grubs, when matured, over three inches long, and are regarded as a great delicacy among the swarthy epicures of St. Domingo. They burrow into the stock of the Cabbage Palm, and also other palms, from whence they are taken for the table.

27th. *Passalus cornutus*, Fab. "Black Oak Tree Borer." Plate III. Fig. 7. Length, one inch and a half, sometimes less; color, shining black; a deep longitudinal line in the centre of the thorax; a short, blunt horn, bent forward, on the head; wing-covers deeply marked with longitudinal raised lines; legs rather short; larva, a large white grub, thickened towards the anterior end. This insect is often found in great numbers in old oak trees or laying logs. I have found it in White Oak, Black Oak, and Walnut. It appears to be partial to dead trees, but is often found in the heart of living oaks; and if ever it should attack fruit trees, from its large size, it would be capable of doing much injury.

28th. *Philophaga quercina*, Harris. "May Beetle." Plate III. Fig. 6. Length, about one inch; color, brown; legs, long, and slender towards the ends; antennæ, lamellated at the ends, opening like a little fan. Appears in May and June. Very destructive, in the larva state, to the roots of vegetation, and in the mature state destructive to the foliage of trees. But they have many enemies, and are rather an awkward insect, and, therefore, fall an easy prey. Domestic fowls are exceedingly fond of them, and so are crows. They are also eaten by skunks, toads, and moles. They belong to the Melolonthons,—a family which has been very destructive to vegetation in Europe, undermining and eating away the roots of grass and grain, where they are sometimes gathered by bushels and destroyed. Their number in this state is on the increase yearly.

29th. *Pelidnota punctata*, Linn. "Grape-vine Beetle." Plate III. Fig. 5. Length, about one inch; color of the wing-covers, a dull brownish-yellow, with three black spots on each of them; the thorax is darker colored, with two black spots, and bronzed; the legs and the body beneath are also bronzed. The larva of this insect lives in decayed wood; but the perfect insect, when it appears in great numbers, is very destructive to the foliage of the grape-vine. Appears in June, July, and August.

30th. *Macrodactyla subspinosus*, Linn. Plate III. Fig. 4. Length, about seven-tenths of an inch; body, slender, tapering before and behind, and entirely covered with a short ashen-colored down; legs, slender, and of a pale yellow color. The prevalence of this insect on the rose has gained for it the common name of Rose Chaffer or "Rose Bug." It appears in June and July, and destroys indiscriminately all kinds of vegetation when occurring in great numbers, but especially roses. Messrs. Engle and Windolph informed me that this insect had almost totally destroyed their crop of grapes during an absence from home of three or four days. They attacked them in the bloom, which they cut off, leaving nothing but the stems. These insects also attack the cherry, both fruit and foliage; hence they are called "cherry bugs,"—also apple,

pear, plum, and fruit trees and shrubbery in general. Sometimes they are found in great numbers upon the elder, also upon corn, rye, wheat, and vegetables and grasses of the fields. The females deposit their eggs in the ground in July and August, after which they come forth again, and soon die. The grubs are destructive to the roots of vegetation.

The foregoing insects remarked upon, belong to the order *Coleoptera*; and although the number presented is small and rather indiscriminately selected, yet time and opportunity would not allow a larger or a better one on the present occasion. Very little has been said about specific description, because this would have involved an extension of these remarks to twice their present magnitude. Descriptions of *all* of them, and illustrations of some of them, as well as extended notices of their history, may be found in "Say's American Entomology," "Harris' Treatise on Insects Injurious to Vegetation," "Dr. Asa Fitch's Reports of the Insects Injurious and Beneficial to Vegetation in New York," "Jeager's Life of North American Insects," "The Proceedings of the Academy of Natural Sciences of Philadelphia," "The Pennsylvania Farm Journal," "Massachusetts Agricultural Reports," "The New England Farmer," "Moore's Rural New Yorker," "The Country Gentleman," "Domestic Encyclopædia," "The Horticulturist," "The Farmer and Gardener," "The Progressive Farmer," and other scientific and horticultural and agricultural journals and records. Specimens, however, of the insects *themselves* are submitted, because a clearer idea may thus be formed of them than any written description can convey.

Before concluding this branch of the subject, it may not be inappropriate to submit one or two other insects, belonging to the orders *Hymenoptera* and *Lepidoptera*. These insects, although belonging to different orders, yet bear some general resemblance to each other in their *appearance*, and quite as much in their *habits*, both being tree-borers. A large number of leaf-eating insects in their larva state might properly have been inserted here; but the main object of the essay was to point out some of the more common *wood-boring* and fruit-destroying insects. The former may constitute material for a future paper. Circumstances at the present time impose a necessary limit to this paper, and that limit, therefore, must exclude many things which ought to have been introduced, and which would, doubtless, be both interesting and beneficial for the gardener and fruit-grower to know. One of the insects alluded to in these concluding remarks is, perhaps, not much known yet among fruit-growers; the *effects* of the other are well known.

31st. *Tremex colomba*, Linn. "Pidgeon tremex." Plate III. Fig. 13. Length, including ovipositor, about one inch and a half; expansion of the wings, from two inches to two inches and a quarter; head and thorax, rust-colored, varied with black; abdomen or hind body, black, with seven ochre-yellow bands across the back, the first two of which are entire, and the others interrupted; ovipositor and legs, ochre-yellow, with darkish thighs. Bores into and destroys trees. Usually found on elm trees in August and September, where the females deposit their eggs, and in which the young grubs live. They have also been known to bore into and deposit their eggs in pear trees, causing their gradual decay and death. This is one of the wood-eating *Hymenoptera*, but must not be confused with those that bore holes into wood for the purpose of making cells for their young, filling them with the necessary food to sustain them. The female of the species under consideration penetrates the bark of the tree with a saw-like apparatus, and deposits her eggs in the orifice, which hatch out, and then bore, in their larva state, into the solid wood. I once purchased a piece of black cassimere in Philadelphia, which was wrapped around a piece of elm wood in which there had been two of the larva of these Tremexs, and the matured insects cut their way through some fourteen or fifteen layers of cloth, but died before they reached the surface of the piece, making as clean a cut hole as if it had been burned in with a hot iron rod. They are preyed upon by a species of *pimpla*.

32d. *Egeria exitiosa*, Say.—(Male and Female,) "Peach-tree Borer." Plate III. Fig. 8 male 9 female, 10 empty pupa, 11 cocoon, 12 larva. Expansion of the wings, about an inch in the male, and an inch and a half in the female; form slender, and color dark blue; the abdomen of the male having a tuft at the end, and that of the female having a broad orange-colored band around it near the end; all the wings of the male are transparent, with a bar across the anterior pair a little beyond the middle; the anterior, or front wings of the female are steel blue, and the posterior pair, or hind wings, are transparent. The grub is whitish, with a few spare hairs upon it, and the cocoon and the pupa are light brown, the former spun out of silky fibre and covered on the outside with the cuttings of the peach tree. Peaches have been suffering so much in the last few years from other causes, that this borer has not given so much anxiety as formerly. Still it is best to prevent their injuries to the tree, so that when all other things are favorable to a good crop, it may not be prevented by the injuries of this insect. The remedies for its destruction are numerous, and no doubt peach tree growers will be able to suggest something more practical and useful than I can. This insect evolves from the pupa during the month of July, and deposits its eggs in that month and in August. It sometimes appears earlier and later; but generally, if the trees are well looked after during those two months, they are likely to escape. It takes a whole year for the insect to mature. The *Egerians* belong to the order *Lepidoptera*, which includes the butterflies and moths.

RENEWAL OF OLD CANES IN THE VINERY.

BY WILLIAM BRIGHT, PHILADELPHIA.

It is with much pleasure that I reply to the criticisms and inquiries of Mr. Chitty, in respect to the restoration of old and exhausted vines in the grapery. A fair and candid discussion of my views of grape-culture, on practical or scientific grounds, I freely court. Mr. Chitty is one of the most honest and intelligent opponents of my system that I have yet encountered, and I will meet his objections in a spirit of generous courtesy. To accomplish my present object most effectually, it will not suit me to reply to his remarks in detail. As I do not propose to do what he supposes, I can best explain my views by showing what I really do and do not propose.

First, then, I have not proposed to cut down vines but three or four years established, and planted with a view to working on the spur system. Only where such vines have borne five or six crops, and have become exhausted, have I suggested cutting them down; and this suggestion was made more as an illustration of a principle in vegetable physiology, than as a part of my system. This principle is, that an old cane, fruited constantly the whole length of the rafter, cannot at the same time produce a crop of fruit, and a layer of new wood and new roots adequate to carry off a subsequent crop of fruit with undiminished power. Cutting down an old vine to get a new cane, is a simple and well-known practice. I do not base the originality of my plan of grape-culture upon this; but I base it upon the capacity of the grape-vine to produce a new fruiting cane in one season, and upon the application of this fact to a new and specific system of planting, pruning, and general culture, having several new and peculiar points of practice.

As a *practical* question in relation to the restoration of old canes in the vinery, I think I should prefer to attempt the renewal of an exhausted cane, not by cutting down, but by *laying down* the whole vine, either in a coil, or by running it back and forth across the border, a few inches under the surface, and bringing up the top of the cane at a well-developed bud. A vigorous cane, not exhausted by constant cropping and lack of foliage, will, after it has been cut down, send up a good fruiting rod in one season. But an old exhausted cane, long-spur-pruned, if cut down, would probably break very feebly, (perhaps not at all,) and in any event might require to be cut back twice before a vine suitable for fruiting could be obtained. But, by the laying-down process, a new and perfect fruiting cane would be produced in one season, with new and abundant roots, *near the surface of the border*, and it would also

have the aid of the old roots till it got established.

I may here call the attention of Mr. Chitty to the fact, that while he opposes the frequent cutting down of canes as a means of maintaining their vigor, his own statements most powerfully sustain my views of the value of this practice. He says that Mr. Mitchell, an eminent grape-grower at Brighton, England, spur-pruned his vines for sixteen or eighteen years, with the best results. These old canes for many seasons produced the best grapes exhibited at Chiswick and Regent's Park, and ably resisted mildew. But mark the context. Mr. Chitty adds: Mr. Mitchell "used, however, to adopt Mr. Bright's renewal system occasionally, *when the crops failed to set good*, or the vines became unsightly." Now, I ask, again, why wait till the vine is *exhausted* and *crops fail*, before renewal? Why wait till the horse drops down on the road, before you stop to feed and refresh him?

I repeat, I have never proposed the renewal of old canes in the vinery, when planted for spur-pruning, by cutting down, except by way of illustrating the scientific principles involved in the practice; but I do propose a new plan of planting vines, viz: two feet apart in the border; a new method of stopping, pruning, and fruiting; with the constant renewal of the vines every other year (after each fruiting season) by cutting down the entire canes, and growing up new fruiting rods, composed entirely of wood of one year's growth; and all this, in my vanity, I call Bright's single-stem, dwarf, renewal system of grape-culture.

The advocates of spur-pruning in the grapery and of rambling vines in vineyard or trellis culture have opposed my system, because, they say, my vines are too dwarf, and my pruning is too close, and does not give foliage enough. To meet these objections, I have adopted a method of practice which early suggested itself to my mind, but which I have now reduced to an absolute rule, and added it to my system, viz: never to fruit but half the length of my rafter, or half the length of my trellis, no matter what length or height that may be, whether six feet or forty feet, and to let the vines run up the remaining portion of the rafter or trellis while fruiting, thus providing a growing cane and fresh masses of foliage above the fruit, of the same extent as the fruiting cane.

The science of vegetable physiology teaches us that abundance of large, well-developed vine-leaves are necessary to convert crude sap into the elements of vine-wood, vine-roots, and perfect grapes. Now, consider the condition of an old, exhausted, spur-pruned cane, fruited the whole length of the rafter, with small and imperfect leaves, and no great abundance of them, with a tough and dried-up cane,

nearly all heart-wood and a very thin layer of new wood, as contrasted with a fresh one-year-old cane, all new wood, fruited only half its length, and the remaining half devoted to the production of foliage only, with leaves often a foot or more in diameter. Which of these two sorts will possess the larger amount of useful foliage—the greater sap-converting power? Which will produce the larger crop of perfect fruit? This last is the question which the editor of the *Gardener's Monthly* justly wishes to see practically answered. I reply, that I have already done something, in the fruiting way, towards giving satisfactory evidence on this point, and I have abundance of native and foreign vines grown upon the new system, which, although not probably as perfect as we can make them hereafter, now stand ready to give practical answers to this great question the ensuing season. So far as my own opinion is concerned, I have the most perfect confidence in the superiority of this renewal system over spur-pruning in every important point of view; and my knowledge of grape-culture as pursued at the Royal Gardens Frogmore, at the Duke of Norfolk's, Wilmot's, Mitchell's, and other first-class establishments in England, I fancy is as extensive as Mr. Chitty's. I have spent years of practical labor in the vineries at Arundel Castle, and have visited all the places Mr. Chitty names within the past year. I have likewise had upwards of ten years' experience in this country, chiefly in growing grape-vines and grapes, and lately under that severest of all practical tests, the growing of foreign grapes for market. I have built and am now building extensive grape-houses for my own use, all constructed on this plan; nor would I use any other that I have ever seen, with a view to profit.

If this article were not extended to so great a length, I should be glad to add some practical rules for obtaining as large a crop of grapes as any common vine ought to be permitted to bear, from half the length of any vinery rafter, or half the height of any arbor or trellis; but I must forbear, or I shall exhaust the patience of both editor and readers. I will only add that I intend, within a few weeks, to publish a new edition of my work on Grape-Culture, with the addition of some thirty or forty pages of new matter (my latest experience and improvements); and I will then give the rules and directions above referred to.

RHUBARB.

BY JOHN SAUL, WASHINGTON CITY, D. C.

THE little attention paid in this country to the finer varieties of rhubarb has often surprised me. Two or three large, coarse varieties are grown, to the exclusion of the smaller, but richer, higher-col-

ored, milder sorts. In England fully as much attention is bestowed on the raising of seedlings and the improvement of varieties, as we give to our finer fruits; hence the result—varieties of the greatest excellence. Downing's Colossal, Cahoon's, Myatt's Victoria, and Linnæus are the varieties generally cultivated here. The first (Downing's) is a very pale-stalked variety, gives a syrup of the same light color; when cooked, is deficient in richness; and where the fine qualities of a rhubarb are recognized, would not be cultivated a single day. The second (Cahoon's) is a very coarse affair, but little removed from the Medicinal plant (*Rheum palmatum*). Under the best culture by the side of Victoria, it is later, with quite a flat stalk (petioles), pale color, with more filament and lack of richness. The stalks of Victoria were heavier, longer, and yield much more per plant. Victoria is now well known, and as a large, rich, profitable market rhubarb, it has few superiors. Linnæus, however, in some points, is in advance, having less filament or fibre in the stalks, and richer. Rhubarb may be divided into two classes,—large (originated from *R. palmatum*), to which the above varieties belong, or small, of which an old variety called Buck's may be taken as the type; and to this latter class the richest and most valuable sorts in cultivation belong, varieties having much less of the medicinal plant about them than the others. The following qualities I should consider necessary to a good rhubarb. First, a stalk free from filament, requiring no stripping when preparing for use; second, a bright scarlet color, not only on the exterior of the stalk, but through its substance,—this gives a rich color to its syrup in whatever way it is prepared, which my lady readers can appreciate; third, the syrup should be rich saccharine, and as free as possible from the taste of the Medicinal plant; fourth, the stalks should be nearly round, solid, not flat, and produced abundantly. Now, all these qualities belong to the finer seedlings descendants of Bucks. Earliness I have not set down as one of my qualities; for, as in fruits, the rhubarb may be extended over a considerable season. In addition to Victoria and Linnæus, which I recommend to all wishing large varieties, I would name the following, every one of which are superior:

Emperor (Waite's).—In the way of Victoria; larger, richer, and less filament in the stalks; a very desirable variety.

Hawke's Champagne.—The stalks are of a deep blood-red, rich, free from filament. Its defect is a want of productiveness and vigor suitable to the garden of the amateur. Type of Bucks.

McLaen's Early.—One of the earliest, very productive, stalks of a rich scarlet, nearly round, free

from filament, and exceedingly rich; a very fine early variety. Type of Bucks.

Mitchell's Prince Albert.—Has now been some years before the public; in England it is extensively grown, but in this country not so much, size being against it. Market-gardeners, on trial, will here find it quite as profitable as the larger kinds, being one of the very earliest, very productive; cannot only be gathered earlier, but will continue longer than the larger sorts, and the yield per acre will be heavier; stalks deep scarlet, free from filament, round, firm, giving an exceedingly rich syrup. Type of Bucks.

Mitchell's Grey Eagle.—This belongs to the large class; not so deep in color as the offspring of Bucks; has a large, thick stalk; free from filament, exceedingly rich and mild; free from the medicinal taste of many larger sorts, and productive. Every person who grows a large rhubarb, should cultivate this; I consider it one of the finest.

Randell's Early Prolific.—Intermediate between the classes this will be found; stalks are of good size, well colored, free from fibre, rich flavor, very early and productive.

Salt's Crimson Perfection.—This comparatively new variety promises well; as the name implies, the stalks are of a rich crimson, free from filament, round, rich, and mild; very productive and early. Type of Bucks.

Turner's Scarlet Nonpareil.—Stalks bright scarlet, free from filament, round, very productive, flavor rich and mild. Type of Bucks.

A PROPAGATING BOX.

BY J. C. LUMBARD, CHICAGO, ILLS.

HAVING gathered many valuable hints from your *Monthly*, I send you, in return, a plan of a propagating-box which is in successful operation with one of our nurserymen. The plan of the box in question is six feet long, three feet wide, one foot deep, made of two-inch pine plank, water tight. A small boiler is then inserted through the bottom of the box. The one in question is nine inches in diameter, eleven inches high, and made of galvanized iron. The boiler rests on the top of the flue over the furnace. Two strips one and a half inches high are then nailed on the inside of the box, resting on the bottom; then strips two inches wide placed cross-wise, resting on them, leaving spaces between each of about one inch. Over these place some kind of coarse matting; then put in two inches of gravel, and fill up with sand. Fill the boiler with water, so that it will flow all over the bottom of the box, and you will get a nice, moist, steady bottom-heat, in which most kinds of cuttings will grow very readily. The top should be partially covered with glass, but

not close. There is never any cause for watering the cuttings after they are planted, as there will be sufficient moisture arising from the warm water to keep them in good condition. If they should get too dry, it can be supplied from the bottom by putting in enough, so that it will just touch the sand. The box is filled with water by means of a small pipe reaching to the top of the sand. The box rests on strong supports at each end. Of course, the boiler must not sustain any weight. Perhaps (and I have no doubt of it) such a thing might be made on a larger scale to work well. I only send you the actual size of one that I know works well, and which costs a mere trifle, about three dollars. The principle is not new. The application, I know, will be new to some, and if you can put it in a few words, so as not to take up too much of your valuable space, and think it worth your trouble, it may draw a hint from some one else.

The boiler is round, similar to a hat, with a flange at the top, which is nailed to the bottom of the box, the joint made tight with white lead. A hole is cut through the bottom of the box large enough to insert the boiler.

There is no necessity for the box to be more than two inches thick, or four inches high. Inch boards above that nailed on to the outside will answer every purpose.

Of course, such a contrivance will be of no interest to those who propagate on a large scale, and have better means for the purpose. Still a good many thousand cuttings may be struck in a box of that size during a season.

I am no gardener, but an admirer of nature's beauties, and a constant reader of the *Monthly*, in which you ask for hints from all.

[We hope our correspondents will respond to the call for further information, in which we most heartily join. The best and most economical manner of applying bottom-heat is a subject a long way behind many others, though second to none in importance. Since writing the above, and as we go to press, we have another chapter to hand on the same subject for our next issue, and hope for others before that appears, so that all can go together.—Ed.]

NOTICE OF DENDROBIUM NOBILE.

BY W. GREY, ALBANY, N. Y.

HAVING seen noticed in the *L'illustration Horticole*, *William's Orchid Manual*, and other European Garden Works, the number of flowers on plants of this charming orchid, at one time, and none of the plants noticed having more than three hundred flowers on at once, and with that number thought to be worthy of notice.

We have here a plant with thirty-four shoots (bulbs), and five hundred and eleven flowers all open to day, 28th December, which, if the notices I refer to are any criterion to judge from, we are far ahead of any thing on record.

If you think a few remarks on our mode of cultivating *Dendrobium nobile* would be worth publishing in the *Monthly*, I will send you a paper on our mode of culture.

[Should be pleased to have the paper proposed.—Ed.]

THE BLACK CAP, OR DOOLITTLE RASPBERRY.

BY COL. B. HODGE, OF BUFFALO, N. Y.

THIS variety of the Raspberry has of late assumed a prominent position, not only in Western New York, but also in some other parts of our country. Among all the smaller fruits, perhaps, there is nothing more productive, or that can be grown, gathered and marketed with as little labor as this raspberry.

The question is often asked, is this a "new variety, or is it merely the old black cap improved?" This was the inquiry which came up for discussion before the American Pomological Society, in Philadelphia, in September last. The name of the writer having been referred to in that discussion, has had a tendency to call out many inquiries in regard to this matter. I was in hopes that Mr. Doolittle, or Mr. Joslyn, would have laid the whole history of this matter before the public. The facts that have come to my knowledge are simply these. Some seven or eight years ago, more or less, Mr. Joslyn, of Ontario Co., New York, discovered growing in his vicinity, some plants of the American Black Cap Raspberry, bearing fruit of unusually large size. From these he propagated new plants by layering the tips of the branches. They soon attracted the attention of Mr. Doolittle, of the same place; who purchased a few hundred, and commenced their propagation in earnest. Propagating only from the young and vigorous plants, (the layers of the previous autumn,) and following this up from year to year. These plants have uniformly produced fruits of large size and fine flavor—far superior to the common wild variety. Mr. Doolittle, as well as myself, have experimented by propagating from old plants then, four or five years old. The result has uniformly been, that such plants (although they grow vigorous and strong,) produce fruit quite worthless and by far, inferior in size and flavor to the young plants.

The Black Cap Raspberry differs entirely from the Antwerp varieties. It sends up no suckers or sprouts, starting two or three feet from the parent plants; but all the new canes start directly from the base of the old plants. It is only propagated by laying or burying the ends of the canes or branches in the earth;

these readily take root and thus form new plants. It is also freely grown from seed. We have seen growing, in the fields, or by the wayside, plants loaded with large, fine fruit, these, doubtless, were seedlings, and for two or three years produce fine fruit, but after a few years the fruit becomes small and worthless. From the foregoing, I have no doubt but that the original plants discovered by Mr. Joslyn were seedlings; but perhaps not differing materially from hundreds of others growing about the country. But the improvements and great value of these plants over all others consists in the improved and scientific mode of propagating entirely from the young plants the layers of the previous autumn. Layers from plants two or more years old, should never be resorted to.

The writer, in company with others, (who have the whole supervision of the matter, and who receive the lion's share of the profits, which they are justly entitled to, for they do all the work,) have now ten acres of these plants in a bearing state. Perhaps some facts connected with their culture may be of interest to others. Of two thousand plants purchased of Mr. Doolittle in the spring of 1858, one thousand of them were planted on a rather hard soil, sloping to the South-east; the plants come up well, but the late burning rays of an August sun destroyed outright, a third or more of the plants; and the balance were so badly injured that they have since been of little value. The other thousand were planted on a better soil—land lying flat. These done well, and have proved very productive. Our most successful plantations have been on good rich loamy soil, gently sloping to the north. Plants set out in the spring will produce a crop a year from the following summer, or fifteen or sixteen months from the time of planting. The first crop is generally about a quart to the plant, and the second and third year, two or more quarts to the plant; some have put the quantity of fruit at a much higher figure, but I speak from facts connected with our own experience, and this is about an average crop. Only about three crops should be taken from the same plants, as the fruit will soon degenerate in size, and also in flavor. The fruit ripens a week or more earlier on the young plants, than on those that are older. They ripen here about the first of July, and continue about four weeks. The plants should be set in rows six feet apart, and three feet asunder in the row, making about two thousand plants to the acre. When the new canes are some three feet long, cut back to two or two and a half feet, this will induce side branches, and keep the plants from growing too high. The following spring, again shorten all the branches to within a foot or less of the main stems. There will be plenty left for a crop—close pruning makes large

fine fruits. Some stake and tie up each plant, which is rather expensive. We have adopted a different plan, when the new canes are, say three feet or less high, a German woman, with her ball of twine, ties each stool of three or four canes together. This will generally keep them erect, and if not tied, each cane will, in time, lean over in different directions, and at length become almost prostrate. Only three or four canes should be left in each hill.

All plants sending up ten or a dozen canes, quite thornless, and of a sickly appearance, are barren, and will never produce any fruit. The careful cultivator will always destroy all such plants, and never propagate from them.

NOTES ON BEDDING PLANTS.

BY CHARLES MILLER.

THE season is at hand when the gardening portion of the public will be busily employed in selecting and propagating plants for out-door decoration. I therefore presume to offer a few remarks, which, perhaps, will not be out of place in your Journal of Monthly intelligence; there is generally some difficulty in selecting plants for effective arrangement in the flower garden, on account of our hot scorching suns in midsummer. We lack those refreshing dews in July and August, so congenial to such plants as Verbenas, Cupheas, Geraniums, Ageratums, &c., with their variegated forms and brilliant colors. Calceolarias of endless variety, from crimson to gorgeous yellow, the latter color especially being very desirable, and the want of such is much felt in our outdoor decorations.

To make up for the deficiency of some of those old favorites of the mother country, I would suggest a few plants that will stand our climate better, and if not quite so effective, will have the merit of being quite as interesting, perhaps more so, to those who wisely make up their minds to do without what they cannot obtain; and, although we have no Kew or Sydenham gardens as models, no "Beaton" to expand and mould our ideas, I trust, Mr. Editor, with your help and a little perseverance and good taste on our part, we shall at least make a fair display. We have a goodly list of plants of tropical and variegated foliage, that are very effective when planted in situations suited to their individual requirements.

First on the list is *Amarantus tricolor*, a charming little plant of the most beautiful crimson, green and yellow foliage, and neat habit, suitable either for edging or for planting *en masse*, exposed to the sun to have it in perfection. *Coleus Blumei* mixed or edged with *Perilla Nankinensis*, will make a fine bed, the latter if used for the edging should be frequently stopped or pegged down, and not allowed to bloom.

Lobelia speciosa mixed with variegated *Alyssum*, has a pretty effect for small bed. *Perilla Nankinensis* and *Cineraria maritima*, mixed or planted in contrast, cannot fail to be striking. *Koniga variegata* with *Verbena Elizabeth*, will make a neat pretty bed, and may be improved by having an edging of blue *Lobelia*. *Perilla* mixed with *Neiremburgia gracilis*, the latter allowed to grow a little above the former would be handsome. Variegated *Geraniums* with an edging of *Amarantus tricolor* is also a very beautiful arrangement. A mixed bed of *Lantanas* make a splendid show—"stands the sun well." *Begonia Rex* does well planted out (or rather plunge the pots in the ground), in a shady situation, requires light open soil, and liberal manuring in hot weather.

An objection to the "ribbon" style of bedding is the fact, that in our climate it is difficult or rather impossible to combine varieties that bloom perpetually, and at the same time furnish sufficient variety and contrast of colors to be effective. The difficulty I think might be overcome by selecting plants with striking foliage. For this purpose I would suggest the following arrangement:—Front double row, *Amarantus tricolor*; 2nd, Variegated *Alyssum*; 3d, *Perilla Nankinensis*, kept low by topping; 4th, Variegated mint; 5th, *Coleus Blumei*, kept low; 6th, Golden chain or other varieties of variegated *Geraniums*.

A Rustic basket planted with *B. Rex* and *B. parviflora*, with Ivy or *Senecio scandens* over the basket would form an object deserving of admiration.

A fine tropical looking foliage bed can be formed by planting as follows:—*Ricinus sanguineus* (as a centre), and then in rotation *Sorghum saccharatum*, (Chinese Sugar Cane), *Canna discolor*, *Canna indica*, and *Warzewiczii*, with an edging of ribbon grass; this bed should be of circular form, and large to be effective. It is not generally known, I believe, that the varieties of *Ricinus*, *Palma Christi* or Castor Bean can be taken up in the fall and preserved through the winter, in a rather dry and airy place, free from frost. They should be well preserved when taken up, and occasionally watered. When planted out in the spring they form fine strong trees.

STANDARD ROSES.

BY J. C. R., BANGOR, MAINE.

WOULD there be a little spare space among the columns of your worthy *Monthly*, that a gardener and subscriber from this most northern part of the Union might say a few words on the cultivation of flowers among my middle and western brother gardeners.

At the time I am engaged scribbling over these few

sheets at my desk, in the greenhouse, the cold north wind is whistling round the house, stepping out doors at the hour of 2 o'clock in the morning, my mercury stands 32 below 0. I suppose our western friends think that we have no gardens, fruits, flowers or greenhouses in Maine. I can tell them that we have all of these, and good gardeners to take care of them, and they must be gardeners to come in contact with our cold climate in raising fruits and flowers in the winter. The first day of last May I cut a bunch of ripe hothouse Grapes. This was not very bad for Maine, and on the same day I exhibited plants grown from cuttings in July, that measured 36 feet in circumference. Those were Lantanas and Fuchsias, that stood from 5 to 8 feet high, with three stems to each plant of equal size, loaded with flowers in every degree of expansion. This was not bad for this cold climate. These were exhibited from the greenhouse of Capt. J. B. Coyle, Esq., of Portland, Maine. My object was to come out with a few words about Standard Roses. Now at the time of writing this, there is standing before me one which I think should be noticed, standing 8 feet high, with its stock as green as holly, and its charming head measuring 31 feet in circumference, displaying all the beauty of 62 full blooming dark double large crimson fragrant flowers, and an immense quantity of buds in every degree of expansion. Now I ask what greater beauty could the greenhouse be possessed of? without talking of the beautiful contrast its foliage makes with other plants. This variety is the Giant of the Battles, one I think of our best Roses, taking all its qualities into account, especially on the stock. It surprises me much in visiting many gardens, that this Standard Rose is forgotten, and at one time no lawn or flower garden was complete without it. However, for my love to see a good Rose, I still cultivate them both in the lawn and greenhouse, and shall do so while they continue to display their beauty like the one here mentioned. Perhaps my way of treating them is different to the manner I see described by others, though being so simple. In the cultivation of all classes of Roses in and out doors I feed very high. Some objections are made to the Standards, that of throwing up suckers. This I am not troubled with. Again, that of getting winter-killed, or dying off soon. I have cultivated the same Standard Rose for six or seven years, and it looks better now than it did in the third year of its grafting. I do not mean to say that it will live for ever, but if it even died now, it has long since paid me for my labor. I cultivate all kinds of Roses on the stock—any thing that is handsome. I plant them out as every person does in a rich bed made for the purpose; at the approach of frost I take them all up carefully, root-prune them, and then

bury them all up in sand in a cold cellar, or if that is not convenient I bury them below the reach of frost, out doors in some dry place; when spring comes, plant them out in their former situations, pruning the heads some, and I am never disappointed from seeing them display all the desired beauty in July and August. I treat them the same in the greenhouse as regards their root pruning.

There is one thing apart in the history of Roses I never saw much written on, that is the origin of the Moss Roses, or who first clothed them with nature's simplest weed,—having been asked the question several times. I should like that some of my brother gardeners who are better posted on the Rose than I, would explain it.

HEATING ECONOMY.

BY AN OLD PACKER, ROCHESTER, N. Y.

ATTACHED to the end of my kitchen I have a shed, the roof of which is span shaped, covered with hot-bed lights; through this shed I carry a stovepipe from my kitchen chimney, and by pushing a damper into the said chimney, the heat is made to pass through the pipe in the shed, thereby upon all ordinary occasions keeping out frost, and by covering upon extraordinary occasions it does the same. So much for this outer crust, if I may so call it. Under this homely canopy I have a tank made of pine, 2 inches thick, and 28 feet long, and 12 inches deep, with two divisions in its centre; this tank is filled with water, and heated from a common copper wash boiler, placed on the back half of my cookery stove, the use of which my wife has surrendered for my gratification. From one inch flow and return pipes attached to this boiler and carried through the wall of the house into this tank, I can keep up this body of water to nearly 80°—loosing but little through the night, although there is seldom any coal put on the fire after ten o'clock. Over these tanks I have six inches of earth, which earth is covered with an inner covering of glass; the atmosphere enclosed by this inner covering is maintained at about 55° by day, losing about 5° through the night.

This power, small as it is, (perhaps too small for any practical purpose), is obtained at no additional cost. Coming as it does from the house fire, and not an average one at that, and still keeping the living room at 70° or 75° if required.

In this shed, (irrespective of the tank apparatus), I can grow a decent Grape in summer.

If a vision of Kew and its splendors should arise in your mind's eye, you must humiliate yourself, and weep over the poverty that should be constrained to construct so humble a place.

Now what six shall I attempt to propagate or grow

in such a shed in winter? or must I abandon it as of too little power.

[Accounts of such little matters we are very glad to receive. The greatest results at the smallest expenditure, is ever a worthy object of horticultural pursuits. We should grow only the Black Hamburg in this case, as it is hardier, and will bear harder treatment than others. It would do well for propagating bedding plants. Almost all soft wooded bedding plants would root well over a tank with such a bottom heat; and we think where there is sale for such stock, nothing better could be propagated in it. If propagation were not an object, such an arrangement would still be very useful as a kind of greenhouse or conservatory.—ED.]

LANDSCAPE GARDENING—GRADING.

BY GEO. E. WOODWARD, NEW YORK.

NO. 3.

THE mania for grading seems to be a prevalent disease with many of those who commence the formation of a country place, and it may be stated as a remarkable fact, that it is the uppermost thought in their minds as being the means of showing both taste and improvement. That a certain amount of grading requires to be done in almost any new place, we do not deny, but we seldom meet with an example where even so simple a matter as the removal of earth, has been a study productive of any very great degree of skill.

There is not in the whole range of Landscape work any process of embellishment that produces so little satisfaction; there is nothing that shows so little for the money expended on it; and there cannot be any imitation of natural surfaces that shall fulfil the same conditions of taste or pleasure. The propensity for levelling has been handed down to us as one of the remaining features of the artificial style of gardening, the right lines of which being thoroughly inconsistent with any warped or natural surfaces, and only appropriate to planes horizontal or inclined. Levelling in such cases was a necessary preparation, and different levels were attained by terraces, or by slight gradients, any change or break in the grade being offensive to the eye—though sometimes used.

The introduction of a straight line as an avenue or walk over the undulating surface of natural grounds, is decidedly bad taste, and entirely out of keeping,—a plane surface being essential to the beauty of a straight line: there being no straight lines in nature, (unless we except rays of light as pointed out by Mr. Repton); it must be evident that the use of a straight line in natural scenery would be out of place.

There are exceptional cases in grading grounds to

which a general rule is not applicable, but those who seek maximum of beauty at the minimum of expense—should have carefully prepared in advance an exhibit, that shall detail the effect produced, and the manner of producing it, as there is no process so false and costly as experimenting for effects in earth-work; it is simply a downright waste of labor and money. There are possible chances of success, and to those who consider change to be improvement, or imagine they exhibit their taste in proportion to the amount they expend,—such operations may afford some pleasure, but for a truthful intention to express the highest degree of beauty in the formation of surfaces, experiments long ago discarded, must cease.

The intelligent removal of earth is matter of skill, and the economical removal of it is a business that requires to be studied, to practice it successfully; there is the same reason why one should be educated to this as to any business, for it is attended with the same conditions of success or failure as marks the progress of any pursuit.

There is just the same application of art in grading grounds that there is in building a house. We do not, either as a principle of economy or taste, collect our building materials, and set men to work to put up a house; take down, alter, remodel and reconstruct, until by a series of expensive experiments, we either get what suits or get fairly disgusted with the whole undertaking; but intelligence in that department of construction dictates the preparation of a studied plan, by which we work out the thoughts of convenience and beauty that suggest themselves. That the architectural plan on paper can be fulfilled by its perfect realization in brick, stone, or any other building material, is a known and admitted fact, but that the arts of design are applicable to any and every form of construction, is to some minds a matter of doubt; to deny them, however, is to deny unquestioned proofs of success, and to make the profession of the Architect and Civil Engineer unreliable and false.

The hundred men who commence to tunnel a mountain may never see the other hundred who work from the opposite end; they may be miles apart, but the fact that they shall meet with absolute exactness, both in line and grade, is as well known when the plan is drawn as when the final blow is struck.

If a few of the prominent parts relative to the removal of earth were properly considered, it might lead to a different view of the subject.

In the first place, the soil is to be removed, and then returned, not only returned, but more must be placed with it, and a long time must elapse before it

acquires the same properties as belonged to it in its natural position.

Secondly, the underlying stratas of earth must either be removed from sight, used in grading a road—filling up a hole, or for some purpose not requiring a finish of soil, or else a calculation must be made for the soil to finish it. It must be evident in all cases, that a system of operations may be devised which shall make a difference, not only in present expense but in future annoyances.

Stating the facts known in Civil Engineering, that earth can be graded to to any plan, and that a plan will show the minimum amount of excavation or filling necessary to develop any form of surface, and that earth in any form can be measured as accurately in its natural position as if the whole were passed through a half-bushel measure, we have the requirements that will enable us to designate the precise amount of cutting or filling in any spot, and knowing the price of moving earth per yard, which is governed by conditions of quality and distance, we shall know the cost, and shall also have the ability to contract the work if deemed desirable.

An estimate of this kind should be made in advance, as well as a plan to work by; and one should know cost as well as effects. The satisfaction resulting from a system of improving where effects are studied in advance, is far greater than from any plans of the ordinary laborer, and no theory or practice of Landscape Gardening or gardeners teaches any system or process of execution by which can be studied beforehand the desired results.

This lack of knowledge on their part, which they willingly ascribe to the inability of genius to convey to unfavored minds the means by which they attain their ends, is a lamentable fact in the history of Landscape Gardening.

ROOTING CUTTINGS.

BY DR. J. F. E., WALLACE, PA.

THE writer of those excellent articles for your truly excellent Journal, gave just one item too much. We are told after the cuttings are calloused, to plant them, and give them bottom-heat. Now I tell you, and you may tell all creation, that this is wrong, at least for Cherries, Pears, and Peaches. I ruined every cutting, except a single pear, which struck roots in spite of the treatment, in that way. A box containing 375 slips of the Ray Peach, packed away in moist decomposed saw-dust under the stage of the greenhouse to callous,—I concluded to let it remain where it was a whole month. Day before yesterday, the month being ended, I removed them, and found my cuttings not only calloused most perfectly, but some of them had roots from one to two inches long. Hence I conclude that bottom-heat is

not only unnecessary but injurious, and this lot of cuttings I planted in a box made after the manner of Cornelius' crotch, which I keep just where they were calloused. That tank made after the model of yours, is an excellent thing for Grapes, &c., but it will never do for Peaches.

I am now satisfied that all kinds of cuttings may, as you and your correspondents say, be made to strike as readily as Grapes, but they require different temperatures, and different grades of moisture, that a few carefully conducted experiments will discover to us what is proper for the various things we wish to multiply in this way.

To the *Gardener's Monthly* and its accomplished Editor. I wish a long and prosperous course. May they both live long enough to Edenize the earth.

[These little experiments are just what are wanted to make "accomplished" propagators. Our friends' note well illustrates what we have already written in another column.—ED.]

NEW PANSIES.

BY D. BARKER, HARTFORD, CONN.

THE following new imported English and French varieties of pansy are a part of thirty new kinds selected in Europe during the last summer, and will, I believe, be sent out during the ensuing spring. I have had specimen flowers of those named sent me at three different periods since August last, and consider them decided improvements upon those previously imported.

Let me respectfully advise those who are admirers of this beautiful flower, when they inspect the various collections which shall be exhibited at the horticultural exhibitions during the ensuing summer, to make notes upon the merits or demerits of each as they consider desirable for future guidance in forming a collection for their own culture. I have no doubt but this year will outstrip all previous ones in the production of imported varieties of this much-admired flower.

12 PANSIE, *var.*, MADAME MOREAU.—Pure white ground, with a distinct blue-purple eye; effective and beautiful.

23 LINGOT D'OR.—(I do not consider this name appropriate.) Light yellow; upper petals sometimes striped with rich violet-purple; eye a rich dark brown.

29 PRINCE OSCAR.—Bronzy-purple, with rich yellow centre; dark eye; distinct and fine.

8 ROBERT BURNS.—Upper petals violet-purple; centre bronzy-yellow, with large dark cinnamon eye.

14 GARIBALDI.—Rich violet-purple, with golden-yellow centre; eye intensely dark and rich; flower very large, fine outline; extra fine.

PRINCESS OF PRUSSIA.—Creamy white, the lower petals blotched with rich violet-purple, and rich velvety-purple eye; extra fine.

The above descriptions are taken from flowers when in a high state of cultivation in this country, (and not mere copies, as nine-tenths of the descriptions given of new flowers imported from Europe to this country from European catalogues), and for which I am alone responsible.

[In this section the Pansy has almost ceased to be a "florist's" flower, through the difficulty of keeping them through our hot summer suns; and most persons depend, as in the case of the Cineraria and Calceolaria, on the seed of the best prize flowers for their annual stock. It is to be regretted, as no one can imagine the beauty of these selected named kinds. In sunk pits, or places not liable to get very dry, however, they can be readily kept over, and we hope Mr. Barker's notes may attract attention to the subject.—Ed.]

INTRODUCTION OF LOMBARDY POPLAR.

BY W. R. PRINCE, FLUSHING, N. Y.

I notice reference is made to the *Cocculus Carolinus*, in your two last numbers. It has been growing in our grounds since 1819. I also notice the Lombardy Poplar (*Populus fastigiata*,) is referred to, as introduced to our country by William Hamilton, but the records of that tree will show that it was introduced thus early by Wm. Prince, my grandfather, and that he had 100,000 growing in his nurseries, which were disseminated far and wide before its propagation was attempted by others. The Ailanthus was first introduced by Wm. Prince, my father, and was sent to him by Mr. Thompson, a nurseryman at Mile End, near London, as the *Sicilian Tanners' Sumach*, and was disseminated for several years under this name, until some importations of Ailanthus from France revealed its true title. The first Ailanthus trees in Pennsylvania, I think, were sent by Wm. Prince to Colonel Robert Carr, Bartram's Garden, under the erroneous name of "*Tanners' Sumach*," and after the discovery of the true name, William Prince repurchased from Colonel Carr all the young trees he could spare of "*Tanners' Sumach*." As a proof that a rose, by any other name, not only smells as sweet, but much sweeter, I may be permitted to recount an amusing fact. For a course of years, this tree was cultivated in Wm. Prince's Nurseries, under the title by which it had been received by him, but the name of "*Sumach*" was so repulsive that the very aspect of the tree seemed *hideous*, and there were so few purchasers that thousands were thrown out, perfectly unsaleable, but after the error in the name was corrected, and "*Chinese Ailanthus*" was substituted for Sumach, a potent charm came over the entire

tree, and every one gazed on it with wonder and admiration, and for many years it was impossible to supply the demands at treble the former prices. It also happened, fortunately, that the male variety was the one originally introduced, and there was consequently, no objection to the tree for the offensive odor which the bloom of the female variety exhales.

It may here, perhaps, be permitted me to depart from the subject for a moment, to say that Wm. Prince was a thorough "American System" man, even before the time of Henry Clay, and that he therefore was desirous of superseding the importation of Sicilian Sumach, as he was afterwards desirous of establishing the silk and vine culture. I will continue my reminiscences in future numbers of your paper.

CULTURE OF THE AURICULA.

BY "SEVEN OAKS," ORANGE, N. J.

WHILE on a visit to a friend of mine a few days ago, and after examining his collection of plants, I inquired for his Auriculas.

"Auriculas" said he, "why I never think of growing such things." Well, I being of rather an inquisitive turn of mind, asked him the reason why. When he very coolly informed me that they were too *troublesome*; implying in his remark that the care they required during winter and mid-summer, was more than they were really worth. I pitied him or the man who thought more of his *care* than his Auriculas. Well, to the amateur who is familiar with the appearance of the flower, but not with the method of growing them; I should say procure the seed from some reliable Seedsman, and operate as follows:—

Sow the seed about the beginning or middle of March, on a mixture of leaf mould, loam, and a little fine sand; cover very lightly; place the seed pan in a gentle hotbed or front shelf of a greenhouse,—covering the pan or pot with a piece of glass. The soil should be moist, but not wet, previous to sowing, so that little or no water will be required until the seedlings are up. Then set them in a cold frame, and harden them gradually, and when large enough to be handled, prick them off into medium sized pots, with soil of the same description as the seed was sown in, returning them to the cold frame for some two or three weeks longer, according to the weather. I then remove them to some northern aspect, burying the pots to the rims in either sifted coal ashes, sand, or some similar material. Now as our warm rains are injurious to them, they will require a shutter or a few boards over them to protect them from it. Repot singly, about the first week in August, in a compost of decomposed hotbed manure, rotted turf loam and fine sand, returning them to their old position, until about the middle of October, when it

will be necessary to remove them to their winter quarters (frames), giving them air whenever possible without injury to the plants; removing them to the greenhouse about the first week in February; being particular in examining the drainage; afterwards giving them a light surfacing or top dressing of the same compost as that in which they were potted; and it is my humble opinion that before the first of April you will have some flowers which you will say are well worth their trouble.

Now friend *Monthly*, we are all creatures of habit, and I imagine that I hear some of your numerous readers say "Seven Oaks" has forgotten to give us a more detailed account of his manner of wintering, but in reply I would say that if the friendship which exists between the *Monthly* and myself happens to continue, perhaps some day or other they may find in a corner of it a few hints on wintering the "Auricula," &c.

[Nothing would please us better than to receive the "details." Florists flowers are above all kinds the class to offer the highest pleasure to the amateur, and many things supposed to be difficult in "this climate" to grow, are only so, because of ignorance as how to suit them to the climate. The writer keeps his Auriculas under glass all summer, with tolerable success.—Ed.]

OBSERVATIONS ON TASTE, AS APPLIED TO LANDSCAPE GARDENING &C., &C.

BY JOHN GRABLE, GARDEN HILL, KANSAS.

YOUR remarks in the January number of the *Gardener's Monthly*, on Mr. Woodward's article on Landscape Gardening, have induced me to say something also, on the same subject. Taste, as I understand it, is the exercise of the faculty of perception in distinguishing the beauties of natural scenery, as the basis of what is called landscape gardening, which is much talked about and admired, but indefinitely understood, from the fact that each one sets up a standard of his own—all are different, from being modified by surrounding circumstances.

It appears to me that much of what is called landscape gardening is nothing but puerility, when carried out in the limited space of a garden, in the too artificial imitation of nature. Utility should govern taste in this case. If so, there is no use or propriety in making crooked paths where straight ones would answer a better purpose. With some it is deemed in good taste to leave the bark on every rural structure they build. To this I would say, let art appear—let it stick out in the natural, to which it is always relapsing and falling back.

And for this reason, I would rather see a man dressed in cloth, than in the skins of animals, and a house covered with boards and shingles, than with brush and bark, and so of other things. If order is

the foundation of taste, disorderly persons, in their wearing apparel, in their houses, in their workshops, in their stores, and on their farms, become vitiated in their tastes by the continued perception of disorder. This adaptability of taste to disorder, is like that of the inebriate for alcoholic liquors, corrupt and unnatural, and no standard at all. Further, to show the adaptability of taste to surrounding circumstances, we will take an ugly man's face, whose rough and repulsive countenance will seem to one as a combination of deformities; while to his children who have grown up under his ugly visage, it will appear without a blemish.

Children, adult ones, never perceive that their parents are not beautiful. This is a fact that will show how tastes may differ—cultivated or not.

Now let us turn our attention to the natural scenery of the globe, which is considered the natural foundation of taste, as applied to Landscape Gardening. We see it diversified with plains and hills, with winding valleys, abrupt mountains, and precipitous gorges, rippling streams, placid lakes, and flowing rivers, to the briny ocean. This diversified scenery in its amplitude, excites in the mind of the cultivated admirer of nature, delightful observations of the sublime and beautiful; but to carry it out in a miniature garden, is simply running it into the ground, in a small artificial scale of puerility, that is *gardenistic*. The trench of mountain ranges; the outline of sloping hills, and winding valleys; the consequent meandering of great rivers through extensive plains to the ocean; has been caused by successive upheavals of the land from the bed of old ocean, to mountain heights—giving great power to running water in washing out valleys and river courses. So the more or less friability of soil and rocks with their upheaval has determined the range and extent of our mountains, winding ridges and sloping hills, with the tortuous valleys and water courses, all according to nature.

Hence it is argued by some *gardenistic* landscape gardeners, that all our roads (except railroads), paths and fences should be any thing but straight—especially in a little bit of a garden, even if the plat should be level. But a great portion of the earth's surface is made of beautiful plains; then here the geometrical form of straight roads and fences, with square fields and gardens, externally and internally, will accord with nature without impropriety, and to my perceptions it is in good taste. But whether level or undulating, rolling or broken, hilly or mountainous, the "Landscaping" should correspond with the natural outlines. As roads winding up and down valleys and traversing ridges. Thus Farms, Parks, and Pleasure-grounds, even gardens embracing hill and dale, can be "landscaped" with utility

and propriety, as it respects good taste—art beautifying nature. I admire and am delighted, yes enchanted, with views of hills above hills, and mountains on mountains, in the distant horizon, where sky and earth seem to meet, in the blended blue.

I am even delighted with less distant scenery, across a lake, to the well defined shore on the opposite side, with the approaching and receding hills bounding the winding shore.

Where I live, Doniphan County, Kansas, I can see every day 50 miles of a circuit of the Missouri valley, 5 miles wide, and the meandering course of the river, with its broad level bottom, covered in many places with cottonwood and sycamore, with its precipitous bluffs on each side, in many places 200 feet high, embracing all sorts of varied scenery delightful to behold.

I am even delighted with changing hill and dale, in close proximity with successive groves of trees, and copses of woods interspersed along hillsides of valleys, with their slopes and terraces.

But I fail to see any thing to admire as beautiful in trying to crowd any, or all of them in a bit of a level garden plat, but deem it pigmy mimicry.

[We are pleased to receive a communication embracing what we regard as excellent ideas of the subject, from so distant a portion of our Editorial "parish."—Ed.]

New and Rare Fruits.

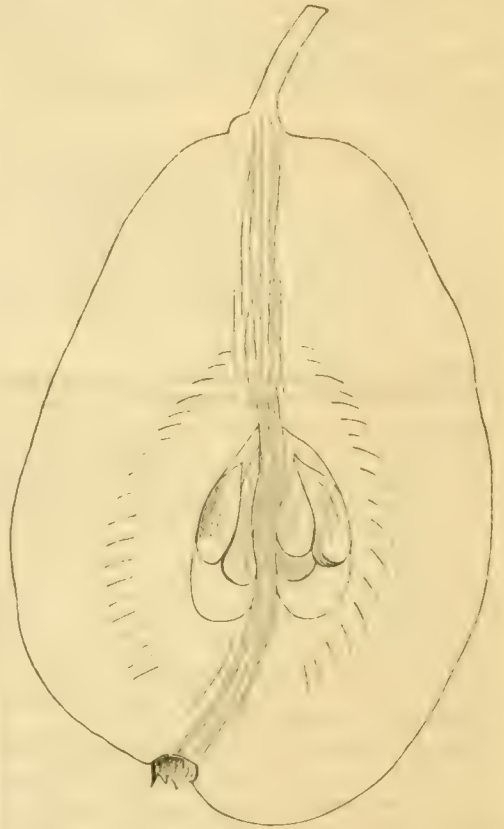
RUTTER PEAR.—This most excellent pear is a seedling raised by John Rutter, Esq., of West Chester, Pa., from a seed planted of the *Van Mons Leon le Clerc*. It has few equals, and no superiors, of its season, ripening from the first of 10th to the middle of 11th month, and will keep much longer, so that it may be called a late fall or early winter variety. The size, quality, and season of ripening, when there are but few good pears, will make it desirable to all lovers of good fruit.

Tree vigorous, thorny when young, which it loses as age increases; an early and good bearer, and the fruit sticks well to the tree; fruit a large obovate; skin a little roughish, of a dull lemon-yellow color; at maturity, numerous small russet spots or patches of cinnamon russet; stalk about an inch long, stout, planted in a small abrupt cavity; calyx small, closed, in a rather deep irregular basin; flesh yellowish, juicy, sweet, and melting, with a delicious flavor. One thing very singular about this pear is that I have never met with a specimen that had any seed.—*J. C. Baldwin, in Farmer and Gardener.*

THE SKUNNYMUNK GRAPE.—This is the title of a

new grape lately exhibited at Newburgh, N. Y., which is claimed to be equal in size and flavor to the Concord, and much superior to it in earliness of ripening.

PEAR DU SOLIS.—At the meeting of the Pomological Society in Philadelphia, in our search amongst the specimens of fruit on exhibition for rare kinds that might possess decided merit, we found the following to be one of the very best, both in appearance and quality. We preserved a specimen till the 4th of October, when we made the annexed drawing and description.



Fruit above medium, long, resembling in shape Louise Bonne de Jersey. Color, greenish-yellow, profusely sprinkled with greenish-brown dots. Calyx, small, in a very shallow basin. Flesh, melting, buttery. Quality, best. One of the best pears we have met with this season.

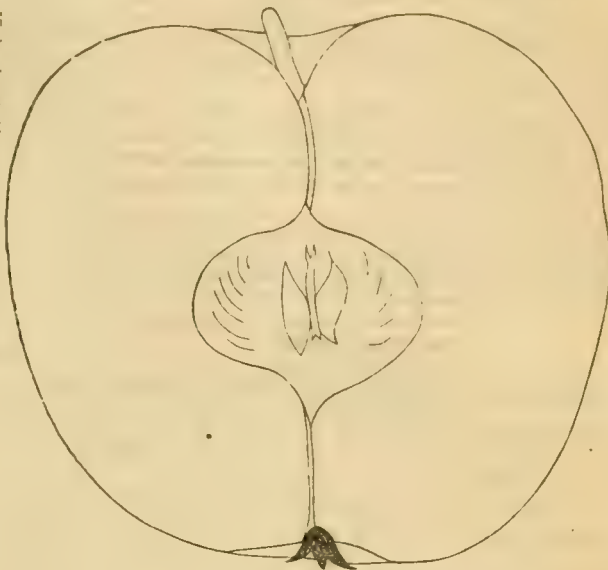
We were indebted to Messrs. Smith & Hanchett, of Syracuse, N. Y., for the specimen from which our cut and description were made. They have now one of the most extensive nurseries in the Union,

and enjoy an excellent reputation for accuracy in their business transactions. They will please accept our thanks for the privilege we valued of laying our hands on whatever suited us in their splendid collection of fruits on exhibition.

WILLOW APPLE.—Size, rather large; form, roundish, approaching conic, slightly oblique; color, yellowish, somewhat russeted, with light and dark red stripes on the sunny side, splashed with small dark specks; stem, medium; cavity, rather deep, regular, marbled with grey on yellowish-green ground; calyx, closed; basin, shallow; flesh, yellowish, tender, mild, sub-acid, good; core, small; seeds, round, dark, plump, and small. December to May. Late keeper; distinct from *Willow-twig* and *Limbertwig*; larger and better; vigorous, stout, upright grower; shoots, long, stout, dark brown; good, regular bearer; valuable.

J. STAYMAN.

Leavenworth City, Kansas.



A NEW GRAPE.—Mr. John Cook, of Philadelphia, sends us an account of a large grape exhibited by him at the Agricultural Fair at West Philadelphia, and which, from its immense size, excited some attention.

The plant was found accidentally on a side-walk in Philadelphia by a friend of Mr. Cook. Its habit resembles Isabella, but the fruit is as large as Black Hamburg, and the bunches weigh from one to one and three-quarters pounds. Some judges have pronounced it Christie's Isabella, and others Union Village; but Mr. Cook gives some very good reasons for considering that it is a very different grape. If found distinct from all others, it may prove a good addition.

THE CUNNINGHAM GRAPE.—George Hussmann a Missouri grape-grower, says of this, in the *Valley Farmer*:

"Although this grape has been cultivated here for a number of years, it has been noticed but little; less, perhaps, than it deserves, as it certainly makes an excellent wine. Bunch, medium, very compact; berry, below medium, purple, with lilac bloom, very juicy, and of a spicy, agreeable flavor, without pulp. Makes a wine of great body, and of a very rich bouquet, resembles good Madeira, but of a finer flavor; vine, a rampant grower, not subject to mildew and rot, but variable in productiveness, producing sometimes very heavy crops, sometimes hardly any thing; somewhat tender; ripe 10th of September."

NEW MODE OF GRAFTING.—The French are practicing a new method of grafting. It can be performed at any season of the year when sound, mature buds can be had, whether the sap is in a flowing state or not. It is performed by removing a small piece of bark and wood, leaving a smooth and flat surface, to which a similar piece, containing the bud, which is to form the future tree, is fitted, which is sealed over immediately with collodion. This forms a strong, impervious cuticle, which secures a free circulation of sap on the approach of warm weather, and a perfect union of the parts.

SIMPLE MODE OF PROPAGATING HARDY AZALEAS.—In spring, before the leaves burst, M. Jager bends down branches into the peat soil beneath, places on them some stones, and covers the stones with moss, watering copiously afterwards, and again in hot weather occasionally. He protects the stocks with litter through the winter, uncovers the plants in the spring, and in the fall following, the whole surface is matted with roots, when they are taken up and divided. He thinks Rhododendrons, and other hard striking plants would do as well.—*Garten Flora*.

The Gardener's Monthly.

PHILADELPHIA, MARCH 1, 1861.

✂ All Communications for the Editor should be addressed "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

✂ Persons sending two new Subscribers for 1861 in addition to their own, with \$3.00 can receive a copy of our First Volume, (1859) free. All persons who have paid their subscriptions for 1861 by sending two new Subscribers and \$2.50 can receive a copy of the same.

✂ Our Subscription list for Rathvon's Entomological Essay, is fast filling up, and as we have only intended publishing a limited number, we would desire all those who may wish to have the work, to send their name and address as early as possible.

PROPAGATION.

PRACTICAL knowledge is of immense value. It cannot be underrated, though that is often attempted. Gardening is essentially an art, and science is its handmaid. Science may aid gardening, but it can never originate it.

We are led to these remarks because it is a prevailing impression that one cannot be a good gardener unless he is a scientific man. Under the name of science the most absurd propositions are being frequently presented to the practical horticulturist, and because, perchance, such propositions do not accord with his experience, and he is unwilling to adopt them as undisputed facts, he is denounced as unprogressive, and belonging to a past and fossil age.

But we do not undervalue science by any means, on the contrary, we believe that if every practical gardener were to take in hand some one of the kindred sciences, and master it thoroughly, both the gardener and his profession would be immensely benefitted. All we would insist on is, that this should be secondary to those habits of practice and observation that are essential to make a successful practical horticulturist.

It is necessary to present this view strongly, because heavy disappointments are daily occurring to amateurs, in their trial of horticultural experiments; and their failure to succeed where they think they ought to, dampens their ardor, and leads them to look upon horticulture and horticulturists, generally, in a very suspicious light.

We will take, for instance, the subject of propagation; and, would say that no amount of science, reading, or study, will make anyone a successful propagator. Amongst the very best propagators the art has ever known, have been men utterly ignorant of the first principles of vegetable physiology, and, perhaps, amongst the worst, some very

scientific men. The foundation of success in the art must be the operator's personal experience.—After he has learned to succeed a little, the experience of others may lead him to greater achievements. He may improve by study, but seldom begin to learn.

To show on how nice a point successful propagation hangs, we may mention the case of an eminent florist whom we once knew, and who was considered one of the best practical hands at rooting Azaleas, Camellias, New Holland plants, &c., there was in the trade. He was in this business for many years, when it became necessary to remove his establishment to another part of the city. He re-constructed his new propagating house as near as possible like his old one, but it took him several years in the new locality before he could get the same kind of plants to root with anything like the same degree of success that attended him at the old stand.

Last fall we debated in our journal many plans for expediting, and rendering more certain, the callousing of cuttings. We believe few subjects ever attracted more attention than these articles did. To those who had already some success in propagation, what appeared in our journal has proved of immense advantage; but it is a question whether to those not so well posted, more harm than good has not been the result.

Amongst a great number of letters that have reached us, on the subject, some detailing their success, others recounting their losses—one amateur friend writes us that at considerable expense he procured scions of many rare and valuable fruits from all parts of the continent, and put them under the Cornelius and Watson process. They "calloused beautifully," but, subsequently "all rotted."

Poor Mr. Cornelius! we fancy there are no inconsiderable number who imagine his process to lie in his pot, and not in his principles; and that they have only to slip in a cutting and take out a plant, just as they would put a block into a machine, and look to see it come out shoe pegs,—and failing in the result, pass some rather shady compliments, at the author's expense. Most of the errors the uninitiated fall into, arise from their mistaking callousing for striking, two very different processes; even good gardeners often fall into the error. A nursery friend of ours, who loves a joke, and whose affection for flowers and fruits has grown upon him to such an extent, that he has become a model of joviality and good nature, often quotes a story of a "first-rate propagator" he once engaged. Seeing him once repotting Camellia cuttings, he asked, "Mr. D. are they rooted?" "No sir," was the reply, "but they are well calloused." "Come to the office, Mr. D. and get your wages," was the only response, and before night the "first-rate propagator" was on his way to

parts unknown. Callousing is only a part of the process of propagation, and to treat a cutting merely calloused, as a rooted plant, is almost certain death to it. Callousing is but the process of healing the wound, and is rather an evidence that the vital principle is healthy and active, than that roots are coming, and it is quite probable that the very effort made to callous, is, in a certain degree, exhaustive, and demanding far more care from the propagator, from that time until it emits roots, than at any other period of its cutting state. The balance of heat and light, and moisture, both in the atmosphere and about the cuttings, necessary to keep the excited cutting healthy till the roots protrude, has, at this time, to be most carefully studied. All this varies with the kind of plant to be propagated, and the maturity of the wood employed for the purpose; no rule can be given. The amateur must fall back on his own experience, derived from carefully conducted experiments.

The improvements that we have been enabled to lay before our readers in callousing cuttings, has prepared the way for much greater success with propagation than was ever before supposed! Many cuttings rot at once on putting in, from the contact of the wounded cells with water, or temperature, especially if the vital principle in the cutting is already at a low ebb. Galtin first sought to overcome this by applying collodion, which formed a skin over the wound, and, for a time, the success of his experiments caused a great commotion in the horticultural world. And yet, perhaps, he was not the original discoverer, for many an old farmer has protested for many years past, that he could make apples, peaches, &c., root readily by putting the ends in a potato, beeswax, &c., but to get them calloused at once, before putting in, is certainly the best of such modes; but, and we would have our amateur friends particularly remember, it is necessary that the very best conditions for successful cutting growth should be at once applied, after that is effected, or the last failure may be more disheartening than the first.

LESSONS ON LANDSCAPE-GARDENING.

MR. WOODWARD's articles have stirred up a spirit in our circle that is potent for much good. One correspondent sends us the following suggestions, which, we hope, will be followed up.

If our correspondents will furnish outlines of such an enclosure as is described, with the *necessary* points, walks, roads, buildings, &c., traced, we will select the one affording the greatest scope for improvements, to engrave. After which we will select the best offered improvements to it, and engrave them also.

J. G., Garden Hill, Kansas.—Please divide a square

acre, it may be more or less, into six divisions, with a dwelling-house on it. 1st. A front yard. 2d. A back yard, both connected with the house. 3rd. A vegetable-garden. 4th. A fruit-garden, the largest. 5th. A stable-yard. 6th. A cow or milking-yard; and all in a square form, on a level inclining to the south. After which, each lot or enclosure must have grass, flowers, shrubs, trees, and out-houses; and the vegetable-garden and fruit-garden must be laid out internally, all in the square form. After we have the five or six divisions planned, we will go to planning the internal use of each lot of the domestic enclosures, I promise to be one in sending you a plan of necessary domestic enclosures, with *reasons* for the same, which I hope others will also do. I have never seen any regular system for enclosures; so, with your permission, let us have a liberal discussion on the subject to make a move in the right way.

BEN DAVIS AND NEW YORK PIPPIN APPLES.

AT the Fruit-Growers' Society of Eastern Pennsylvania's meeting the Secretary read a note from Dr. Warder, which, we were pleased to find, confirmed the views we have taken of their identity.

We presume the name of New York Pippin will now be dropped, and *Ben Davis*, as being the one first described in any work of authority, be the one generally adopted.

Errata and Queries.

Communications for this department must reach the Editor on or before the 10th of the month.

PROPAGATING, &c.—E. M., Poughkeepsie, N. Y.—In the July number of the *Gardener's Monthly*, you speak of putting grape vine eyes in damp moss for two weeks before planting; now I have a lot of grape cuttings that have been laid away in soil in boxes, in the cellar. The soil is moist, and the cuttings come out of it moist and soft. Now, would you cut them up and put the eyes in damp moss for two weeks before putting them in the soil? as they have been kept so moist, will it not be too much of a good thing to put them in moss,—will they not rot?

Will it do to use building sand, taken from a gravel pit this winter, to propagate them in, or, is common white sand better? How can a callous be formed on verbena cuttings, before planting? What degree of heat should a propagating house be kept at? it is one heated by a brick flue, and to be used for propagating only; should not the bottom heat be kept up, even in days when the sun shines, (and when the sun heat alone would keep the house up,) and the house kept to a right degree of ventilation.—

When the temperature is right, about how often will eyes, in course of propagation, on a propagating table, need watering? is it best to water often and lightly, or only when dry, and then more freely?

What depth of sand should be put on the shells, on a propagating table, to strike eyes in? Is pure sand better than a mixture of sand and soil, to strike eyes in?

[We print these inquiries, more to show our disposition to oblige our correspondents, than in the hope of being able to give any satisfactory answer. They are all questions of *detail*, calling for adaptations to special circumstances, which can only be learned by the operator's individual experience. All we can say is, we would rather cut up our eyes first, and put them in moss afterwards. They may rot if kept in moss too long. Color is of no consequence to sand, for propagating; the deleterious matter it contains, is the evil. White is sometimes worse in this respect than others, sometimes better—experience is the only judge. Cuttings that have the vital principle so active, that they are in condition to root right away, before the wound at the base of the cutting has time to rot, needs no callousing. For propagating most kinds of plants, a bottom heat of 60° does well, which should be maintained without regard to the weather outside; regularity, in this respect, is important.]

Watering depends entirely on the structure of the house. If it is one that keeps a naturally humid atmosphere, little water will be required. The only rule we can give, is to water only when the cutting is likely to lose more moisture than it can, in the absence of roots, absorb from the sand. Depth of sand has no effect on the cuttings in *itself*; in connection with *treatment* it might. Shallow sand, by neglect, may get too dry, and a thick layer by carelessness, get sodden and sour. Practice only can decide, in each case, the best depth.]

SURFACE-MANURING—*B., Cincinnati, O.*—You are very much mistaken. We have been a constant reader of horticultural papers for many years, and are well assured that the first article in any purely horticultural journal on surface-manuring that excited any attention in this country, was by our correspondent Mr. Bright at page 51 of our first volume. So far from "all sensible horticulturists adopting the practice for many years," we think the majority have not yet "fell into line." Good friend, we are tired of this everlasting cry of "'Tis nothing new." We do not pretend to offer much "new" in the sense in which you and others who never tell us any thing, either "new" or "old," understand it. Probably not a solitary idea now agitating the public mind, but could be hunted up

somewhere in some one of the millions of obscure pages that have poured from the press the last half a century. Even Darwin's curious theory of the origin of species has been justly claimed by a Scotchman, who published precisely the same ideas years ago. But we do claim, that if not "new," at least *novel*, ideas have been showered into our columns; and what with fixed-roof houses, economy of large glass, hoe-forks, propagation, surface-manuring, cheap hot-water tanks, evergreen management, theories of pruning, and thousands of other matters which our indexes do not half record, the *Monthly* presents a record of which it feels proud.

EFFECTS OF DEW ON ROT AND MILDEW IN THE GRAPE.—*Mr. W. Elder* dissents from our views as attached to Mr. Mullet's article. As we have not space this month for a full discussion of the subject, we give an abstract of Mr. Elder's remarks:

He believes dry air to be the essence of success in grape growing. 8 by 8 feet apart, he thinks best for grapes, so that they may get the benefit of dry air and sunshine. As mildew follows heavy rains after droughts, it shows, he thinks, that it is the damp weather that breeds it. He thinks further, that an overdry atmosphere only injures when some such process as the action of fire occurs about them. He does not believe that the well-known health and exemption from disease of grape vines in trees, arises from partial shade, but, "from there being seldom dews and fogs up there." In short, Mr. Elder has invariably noticed that "mildew and rot always follows a few days of wetness and cloudiness."

We agree with Mr. Elder in regard to the accuracy of the facts he presents; but need scarcely repeat that we draw different conclusions from them.

PRUNING APPLES IN NORTHERN LATITUDES.—*R. W., Montreal, Canada*, says: "I should like to see an article on the effect of frost on apple trees, after pruning; you advise to prune in winter; as far north as this it would almost kill the trees."

[We can see no reason for any such bad result—though we well know that "circumstances often alter cases." We ask the attention of our Canadian correspondents to the hint.]

JAPAN PLUM.—*Mrs. J. M., Delaware, Ohio*,—"If you can give me any information about the cultivation of the Japan Plum, please do so through the *Gardener*."

[It is a species of Persimmon, and can be, doubtless, raised in the same way, viz.; sow in a pot, and keep it in a shady place, till it sprouts, then remove to the full light. Either in the greenhouse, or the open air will do equally as well. As the seed is from

Japan, and dry, it will not, perhaps, sprout for a year.]

LIQUIDAMBER.—LYSIMACHIA.—"I have a Liquid-amber styraciflua about fifteen feet high, which has not yet showed any sign of flowers, or seed. What do you think is the reason? (1.)

Will *Lysimachia nummularia* make a suitable trailing plant for a vase?" (2.)

[1. It is too young and too vigorous; it will come right, soon.

2. Excellent. But do not let it get in your garden, where it will become a nuisance.]

JACKSON APPLE.—Correction.—In our last, the types read of the "herb," instead of the *flesh* of the apple. Such errors occasionally happen in the best conducted magazines, where the authors do not correct their own proof, and are usually left to the good sense of the reader to correct. We prefer, however, to direct attention to them.

LEMON TREES.—S. A. M., Lancaster, Ohio.—"I have a lemon tree that blooms freely, but does not fruit, can you give me any direction about it. (1.) Also, relation to the culture of the *Achimenes*, when planted, and at what price." (1.)

[1. Your plant is probably a seedling that has not been grafted. Like apples and other trees, they must be grafted and budded from bearing trees, to induce early fruitfulness.

3. It would take too long a paragraph in this column, to give their whole treatment. There are two excellent chapters on the subject, at page 104, and page 106, of our last volume. Most of the principal florists keep them. Price varies with kinds, and sellers; usually, good kinds are sold 12 kinds for two or three dollars.

OLEANDERS.—E. H. C., Shepherdstown, Pa.—The best mode of propagating the Oleander; also, if they can be grafted or budded successfully with other varieties, and at what time? (1.)

I have an Oleander (*Oleander splendens*) which is eight feet high and uniformly well branched from the root, the whole forming a trunk of over four inches diameter. The box in which it now stands is rotten. The inside measurement of said box is seventeen inches square. It has always done well in this. Now, in constructing a new one, how much larger should it be? (2.)

[1. Well-ripened wood of last year taken in April, the leaves reduced and cut into six-inch lengths, and set out in a partially shaded situation in the garden, root as readily as currant bushes. We do not think

you can do much with budding or grafting, though good propagators increase very rare kinds that way.

2. A few inches (say two) larger would be sufficient.

GREENHOUSE ARRANGEMENTS.—W. W. W., Oberlin, O., asks:

1. If I should put a tin or copper boiler into the top of my furnace, and a wooden tank such as you have described for heating by water, would the amount of heat required by the greenhouse plants be sufficient for my bed of cuttings? or must the water boil most of the time? Most of the time now I only need to build a fire in the evening.

2. Do large rose-cuttings succeed as well as smaller twigs?

3. Can I strike cuttings of the Japonica in water, as the Oleander? or how can I multiply them?

4. How are Azaleas produced?

5. My Japonica buds do not open. Will frequent moistening forward them?

[1. Tin would not answer. It is not durable enough. The tank would not well heat the greenhouse above. The flues should be led along one side of the house in addition. The water must never "boil" or reach 100° at the return-point of the tank. If the tank is large in proportion to the size of the connecting boiler, no fear of its boiling. Many parties complain of too much heat in these tanks. The remedy is to make them hold more water.

2. Medium-sized do best.

3. As well as the Oleander. The half-ripened wood strikes readily in a bottom-heat of 60° to 70°.

4. Just as the last.

5. The growth has been suddenly checked in some way. It is difficult to direct a remedy without knowing what checked them.

Some of our readers, we have no doubt, smile at the simplicity of some of the queries we receive; but it is precisely what hundreds of amateurs and novices feel the want of, and we are therefore glad that they ask the information which we feel it a pleasure to give.

HOBBS' EARLY PEACH.—O. T. Hobbs, Randolph, Pa. writes:—"The new early peach about which inquiry has been made of you, originated at the American Garden of Experiments, and bore its first fruits the past season. It is a seedling of Fay's Early Anne. The fruit is not quite as large, but very fleshy, with extremely small pit. Superior in quality, and ripening from twenty to thirty days earlier than our standard early peaches. The tree is perfect. It may save inquiry to say that no trees have been propagated."

DISEASE IN APPLE TREES.—“*Newton*,” *Mt. Hope, Va.*—In my garden I have some very valuable apple trees; I am losing some every year, some on account of the bark drying up on the south side of the tree, and falling off a little at a time, until it finally decays and dies. Others seem to die from some kind of a disease in the roots. The small roots have lumps on them like warts on a man's hand, and the soil about the roots is of a whitish cast, something like mushroom spawn, in fact, my whole garden seems to be inclined to this whitish stuff after it is dug up, particularly where it has not been stirred up for a long time.

Please tell me what is the cause of the above, and the best mode to get rid of those two evils. (1.)

I send you a leaf of a small aromatic plant, as I wish to know the name of it; has a beautiful smell, and is nice in soups, &c. (2.)

I wish to know what remedy you will give me for preventing mildew in roses; it is very injurious to mine, and seems to be spreading throughout my whole greenhouse. (3.)

[1. The lump-like warts on the roots of your apple trees, are caused by the larva of some species of insect, and the bark is probably injured by the same insect in one of its stages. Specimens would be necessary to say precisely what insect. The spawny substance is a form of fungi, which feeds on the roots rendered diseased by the action of the insects. Digging out the diseased roots and tumors, replacing with pure fresh soil, cleaning the bark, pruning a little to induce a vigorous growth, and attending to producing healthy action generally, is the best advice we can offer.

2. We do not know the leaf. Send us a flower shoot, just before the time the seeds mature.

3. Syringing with clear lime water, in which sulphur has also been mixed, and exposing the plants to a good, warm sun afterwards, is the best remedy. A weak sappy, unhealthy growth, cannot bear a sudden change to dry air and sunshine; the best preventive is therefore, robust health.]

INGA PULCHERRIMA.—*S. T. T., Minneola, L. I.*—This plant does not usually flower well, till it becomes four or five years old. The best treatment is to grow it freely and well, for two or three years, and then suffer it to remain in its pot, pretty well filled with roots, so that its rampant growth is gradually checked. If your Banana has been in a high temperature, and five years old, it ought to soon flower. Our correspondent further says, he has had some success with hot water for mealy bug and red spider, though not complete. He should make allowances for cooling, when applied through a syringe, and learn by experiment how great a heat the plant will bear.

SUGGESTIONS FOR HORTICULTURISTS.—*A. N. Y.* correspondent remarks: “I have another subject or two on my mind, that I will mention.

Is all the present horticultural practice in accordance with true scientific principles? and are not many of our practices doing, prospectively, great injury to the future constitution, growth, and perfection of our fruits and plants?

The first question is brought fresh to my mind from the fact, that in the discussion of the subject of the “Influence of the sun and moon upon vegetable growth,” in the meeting of our “Rural Art Association,” this month, the many theories of the moon's influence which are so popular among us, and that have been handed down from generation to generation, and which, *many of us know from close observation and practice to be true, (?)* are by scientific men, shown to be mere fallacies, and untrue in fact, such as putting seeds in the ground while the moon is on its increase, and not in its wane. The effect of the quartering of the moon at a particular time, as influencing the weather during that particular quarter; the souring of milk if placed where the moon shines upon it. The shrinking of meats, if killed at a particular stage of the moon, &c., &c. Is it not time that these follies were banished from our practice, or, at least, that our horticultural and gardening journals should discountenance them?

As to the other subject, the mode of propagating in its influence upon plants, I will attend only to the grape. We know that there are men who, with some of our popular varieties, are making fortunes by the rapid multiplication and sale of vines at extravagant prices.

To make the most of the supply of woods they have at their command, they use each bud, and force their growth under glass by steam, and other artificial heats, to a marvellous extent; then taking the buds from this forced and immature growth, they are put through the same process from year to year. Is not the tendency of this mode of propagation to enervate and weaken the strength of this plant? A like practice in the animal kingdom would be condemned; why not in the vegetable? I merely allude to these subjects, because I feel that if our practice is correct, we ought to be able to show men of science that *they* are wrong, and *we* are right. Otherwise, we should change our practice so as to harmonize with truth.”

NAMES OF PLANTS.—*Mrs. S., Raleigh, N. C.*—The long leaf is *Cuphea eminens*; the shorter, *Habrothamnus elegans*. The brown tips show the leaves to have been injured for want of water. Give them more pot room,—they are strong growers. *Veronica Andersoni* should have the same treatment.

THE PERFECTED TOMATO.—“I wish to make an inquiry in regard to the ‘‘Perfected Tomato,’’ last spring I procured some seed of J. M. Thorburn. I planted them carefully, and had good success in raising plants, and there can be no doubt that the plants were from the seed so obtained; but strange to say, they produced two distinct kinds of tomato, both different from any that I had ever raised before. Some of the plants produced a very large, smooth, bright red tomato, and others, a tomato identical in color to the ‘‘Fejee,’’ but smoother, rounder, thicker, and more fleshy, with fewer seeds than the ‘‘Fejee,’’ both very fine, and so nearly equal in quality that I could not decide which was the best, but preferred the Fejee colored, because of its more perfect shape.

Query—Which of these two is the genuine ‘‘Perfected Tomato.’’ F. S. J., *Libertyville, Md.*

[We have not seen this variety. Mr. Norris, of Windsor, Ohio, in some notes of new vegetables handed us, thus describes it:

‘‘The Perfected Tomato we deem as a valuable acquisition to the tomato family. It far excels the ‘‘Fejee,’’ or any other variety we have grown.—They ripen early, and continue in bearing until the frost kills the vines in the fall. Fruit large, smooth, and the seed cavities very small, and but few seeds, meat solid, and of the finest flavor.’’

We are not acquainted with its history. If raised from what is called the ‘‘Fejee’’ variety, it is quite likely to inherit a tendency to return to it occasionally.]

PROPAGATING GRAPE CUTTINGS.—C. H. C., *Petersburg, Va.*—Remarks appended to other inquiries, and articles in other columns, will, we think, explain all you seek to know. E. C. H., *Rushville, Indiana*, and other correspondents also.

VILMORIN'S NEW UPRIGHT TOMATO.—F. S., *Easton, Pa.*—This new kind, said to need no stakes, will probably be offered for sale by most of our seed importers this spring. We doubt, however, whether it will prove more than a curiosity.

FERTILIZING STRAWBERRIES.—S. G., *Kenosha, Wis.*—For some time past, I have been cultivating strawberries. For markets I have tried several kinds, but none have done so well as the ‘‘Hudson,’’ but, as it is a Pistillate variety, it will not do well, unless mixed with a staminate. I have used the ‘‘early scarlet’’ as a fertilizer, but it is a very poor bearer with me; would not ‘‘Wilson's Albany,’’ ‘‘Hooker,’’ or any other staminate variety that I find to be productive, do as well for a fertilizer as ‘‘early scarlet?’’ an answer through the ‘‘Gardener's Monthly’’ will

much oblige one of your subscribers.

[Few kinds can beat the Albany as a fertilizer. We once saw two large beds of Albany and Hovey, side by side. Hovey was rendered so enormously productive, that in this respect it was little inferior to the Albany, and the owner, who was a strong ‘‘Albany’’ man, came near hesitating about discarding Hovey, as he said it was his purpose to do.]

FORCING PEACHES FOR PROFIT.—A. C., *Boston, Mass.*—In what respect does a green-house, built on the ridge and furrow principle, differ from the ordinary style? (1.)

Can you put me in the way of subscribing for the *Botanical Magazines* mentioned in your journal? (2.)

Can peaches and other fruit be cultivated under glass with profit? (3.)

Do you know of any work which you can recommend, that treats upon the cultivation of fruit under the glass? (4.)

Will you give me the name of the author of an article in the last *Monthly*—title, ‘‘A new theory of fruit forcing,’’ by a Massachusetts gardener? I wish to call upon him. (5.)

[1. An engraving only would clearly explain. A quantity of span roofs set side by side, so as to form one roof, making alternate ‘‘ridges and furrows,’’ is the best brief description we can give. The principal is useful in making large or wide structures.

2. In all large cities there are ‘‘book importers,’’ who get them when ordered by responsible parties.

3. Undoubtedly; though we know no one who has made a business of it.

4. River's Orchard House, published by Saxton, Barker & Co., New York.

5. It is against our rules; one of the reasons why many writers withhold their names, is to prevent parties corresponding with, or calling on them, which often proves inconvenient and troublesome.

GRAPE TREATISE.—J. A. B., *Bridgeport, Conn.*—Chorlton's Grape Grower's Guide enjoys the widest reputation for a guide in the matters you inquire about. You will find the recommendations given in it perfectly reliable, for ‘‘producing grapes for the table,’’ as you wish.

APPLES IDENTICAL.—The publisher hands us the following extract from a business letter of Messrs. Carey, Peter, & Carey, Louisville, Ky.

‘‘But little new in horticulture with us; but we think we have ascertained, to a certainty, that the Nickajack apple of the South, and the Carolina with us, are identical; also, the New York Pippin and Ben Davis.’’

EARLY TOMATOES.—*R. F. Sandwich, Mass.*—The large early smooth red is the best for earliness, and there is nothing like a hot bed for forwarding them early. It is best to put them in three inch pots, where only a few are desired, and very early. They suffer no check then, in transplanting.

LANDSCAPE GARDENING.—We have a number of excellent articles on Landscape Gardening on hand, which shall appear from time to time, according as space offers that we can afford for the subject.

WINTERING VERBENAS.—*W. W. Wright, Oberlin O.*, says:—I have found a grand method of wintering Verbenas, &c., viz., by extending the eaves of my greenhouse down to the ground and putting in a return flue, to be used when needed, and planting my plants in the ground. They will not be need to be watered all winter.

Books, Catalogues, &c.

TRANSACTIONS OF THE MASSACHUSETTS HORTICULTURAL SOCIETY FOR 1860, we owe to the polite attention of Mr. Eben Wright. It is the most valuable of this class of documents that we have received this season, and, like some other matter on our table, we hope to revert to it again.

AMERICAN POMOLOGICAL SOCIETY. Transactions for 1860. By favor of President Wilder, an early copy was forwarded us, which the mail failed to deliver, and we are further indebted to the Treasurer, Thomas P. James, Esq., for a copy as we go to press. For correctness of matter and beauty of execution, it is far in advance of any former publication, and does credit to the Society's reporter, Mr. Vick, under whose superintendence it has been got up.

GARDEN ANNUALS AND DIRECTORIES.

Few men deserve better support from the public than those who not only offer articles to sell, but go to a heavy expense to get up works to direct the purchaser how to grow and raise them, for gratuitous circulation. It is the true interest of the trade. No one is so liable to buy again as one who has been successful in former purchases.

We have already noticed some of these manuals, and now have also on our table:

PASCHALL MORRIS' Garden Manual, Philadelphia. With directions for vegetable growing.

DREER'S Garden Calendar for 1861, Philadelphia. Flowers and Vegetables.

DESCRIPTIVE CATALOGUES.

A. R. WHITNEY, Franklin Grove, Illinois. Fruit and Ornamental Trees. 30 pages octavo.

GOULD, BECKWITH & Co., Rochester, N. Y.—Fruit and Ornamental. 32 pages. Illustrated.

JOHN PERKINS, Moorestown, N. J. Fruit and Ornamentals. 34 pages.

JAMES PENTLAND, Baltimore, Md. Selected Roses. 31 pages.

C. REAGLES & SON, Schenectady, N. Y. Fruits, &c. 34 pages.

H. W. WILSON, Washington, Pa. Fruits, &c. 16 pages.

PETER HENDERSON, Jersey City. Roses, Dahias, &c. 20 pages.

ANDREW BRIDGEMAN, New York. Gladiolus, &c. 8 pages.

J. M. THORBURN & Co., New York. Gladiolus. Sheet Catalogue.

PARSONS & Co., Flushing, N. Y. Description of *Stuartia Pentagrynia*, a rare shrub. Beautifully illustrated.

J. McLAEN, Roadstown, N. J. Fruits, &c.

JAMES EDGERTON, Barnesville, O.

H. COLLINS, Auburn, N. Y.

L. TUDOR, Richmond, Va.

JOSHUA PIERCE, Washington, D. C. Small Fruits.

SMITH & HANCHETT, Syracuse, New York. Descriptive Catalogue of Fruit and Ornamental Trees, Greenhouse Plants, Vines, &c.

J. A. BRUCE, Hamilton, C. W. The only Canadian catalogue we have received this year, and have pleasure in recommending it as one of the most complete issued on the Continent. It is a large octavo of 50 pages. It embraces both seed and plants.

THE RURAL MINNESOTIAN. The eighth number is now before us. It is a weekly agricultural journal, published by Hyde, Williams & Co., at Waseoia. The second new journal of this class that has come to our table within the past week. Minnesota agriculture must be most decidedly "looking up."

THE HIGHER LAW, published weekly by Herbert Reed, of Madison, Wisconsin, is one of the many new literary, agricultural, horticultural, and scientific journals that have made their appearance this season. It is something in the style of the *Rural New Yorker*, *Southern Homestead*, &c., and is replete with interest.

HINTS ON THE CULTURE OF THE EXOTIC GRAPE. We have received from Mr. B. Donahoe, of Philadelphia, a clever production in rhyme, under the above head, which we are sorry would occupy more space than we could afford. We should be pleased to have Mr. D.'s excellent experience on this and other subjects in solid prose; it suits our space

better, and "he is the man that would die" to good advantage. Mr. B. says:

"First let the bed on which they (the roots) lie
Be always mellow, rich and dry;
If growth you seek in frosty weather
Make roots and stems work both together."

Of temperature, he says:

"Commence your work with fifty-eight,
And then per week increase your heat
Until it rise to ninety-five,
And thus your vines are sure to thrive."

Of ventilation:

"Some ventilation they require,
But bottom air they ne'er desire."

REPORT OF THE INAUGURATION OF THE BOTANICAL SOCIETY OF CANADA, established at Montreal on December 7th, is highly satisfactory. We believe it owes its origin to the exertions of Dr. Lawton.

In his address he gave a sketch of the past and present state of Botanical Science in Canada, and the objects the Society had in view. He said:

"Botany is at a low ebb in Canada, at a lower ebb than in most civilized or half civilized countries on the face of the earth. At the close of the eighteenth century only five dissertations on botanical subjects had been published by the whole medical graduates of the great continent of America. Since then the indefatigable labors of such men as Michaux, Torrey, Harvey, Curtis, Boott, Engelmann, Tuckermann, Sullivant, Lesquereux, and especially of one whose name and fame rise above all the rest, Asa Gray, have brought our knowledge of the botany of the United States on a level with that of the best botanized countries of Europe. It is proposed that our Society shall have for its object the advancement of Botanical Science in all its departments—Structural, Physiological, Systematic and Geographical; and the application of Botany to the useful and ornamental arts of life. The means by which this object may be accomplished are various, and will come before us for discussion from time to time. In the meantime, it is proposed that there shall be monthly evening meetings in Kingston during the winter for the reading of papers, receiving botanical intelligence, examining specimens, and discussing matters of scientific interest in relation to the science; also that there shall be field meetings during the summer in distant localities in Canada, as well as in the other British Provinces of North America, and occasionally also in the adjoining States, whereby our members may have an opportunity of investigating the botany of districts that have been imperfectly examined."

The Society commences its existence with about one hundred members and cannot but have a fostering influence on the successful prosecution of the study. Communications should be addressed to Prof. Lawton, Kingston, Canada.

New or Rare Plants.

FUCHSIA MAMMOTH.—This extraordinary double Fuchsia was raised by Mr. George Smith, Tollington Nursery Road, Islington, who has for many



years been one of the most successful raisers of this class of plants. Our figure will give the best idea of the size and shape of the flower, the tube and sepals of which are crimson, and the corolla violet-purple, with a vermilion stripe half-way down each petal. It is certainly a very fine flower.—*Collage Gardener.*

SOME OF THE BEST NEW ROSES.—N. America, salmon fawn and cream, with fine habit. T. Duc Magenta, a splendid flower, large, double, and of exquisite form; color, delicate pale flesh, tinted with fawn. B. Victor Emmanuel, deep plum. H. P. Bunant, deep brilliant carmine rose, beautifully tinted with violet. H. P. Le Royal Epoux, brilliant rose, changing to lilac rose; flowers large and well formed. H. P. Louis XIV., a gem amongst gems; the color of this variety, which is intense fiery crimson, with a blackish crimson centre, is rich and gorgeous in the extreme. H. P. Madame Boll, a flower of unusually large size, very full and of exquisite

form; color delicate rosy peach. H. P. Madame Charles Crapelet, rosy scarlet; petals large, smooth, and of fine quality. H. P. Madame Louise Cerique, deep brilliant crimson. H. P. Madame Pauline Villot, brilliant deep rose. H. P. Mademoiselle Eugenie Verdier, outer petals pearly white, centre delicate pale flesh. H. P. Senateur Vaisse; a good synonyme for this superb variety would be "General Jacqueminot surpassed;" the color is intense glowing scarlet. H. P. Triomphe de Lyons, a truly splendid flower; color rich crimson purple, with fiery crimson and purple. H. P. Victor Verdier, a noble flower in the way of Jules Margottin; outer petals deep rose, centre brilliant rose.—*Florist*.

NEW AMERICAN TREES.—A paper was recently read before the Philadelphia Academy of Natural Sciences, giving the following account of some new trees, with descriptions by Mr. S. B. Buckley. We may observe that Le Conte has already named another species of *Carya*, *C. Texana*, and we believe the Academy have, since the publication of the paper, decided to change the name to *C. Buckleyana*.

Esculus arguta.—Fruit covered with prickles.—Stamens erect, or slightly curved, much longer than the pale yellow corolla. Calyx campanulate, divisions obtuse, pedicels short, whole panicle subpubescent. Flowers dense. Leaflets 7, glabrous, ovate-lanceolate, acute at both ends, sharply and unequally serrate. Shrub 3-5 feet high, with a smooth bark. Flowers in March. Panicles 4-6 inches long. Leaflets 2-4 inches long.

Hills in the vicinity of Larissa, Texas.

Halesia reiculata.—Leaves broad-ovate, pubescent on the midribs, scabrous, obscurely dentate, teeth, small, acute, under surface of leaves pale, much reticulated. Fruit 4-winged, two lateral wings double in width to the others. Style long, mucronate. Leaves 4-5 inches long and 2-3½ inches broad. Fruit smooth, 1-1½ inches long, and 6-7 lines broad. Pedicels 5-7 lines long. Small trees, branches smooth, bark of trunk light gray, furrowed.

Banks of streams tributary to the Red River, above Nachitoches, Louisiana.

Fraxinus Nuttallii.—Leaflets 5-7, lanceolate, acute at both ends, irregularly toothed, upper surface smooth, under surface pale and subpubescent along the midribs, short-stalked, petioles long, glabrous, fruit ovate-lanceolate, three-winged, acute at both ends, branches smooth, bark of trunk gray, and furrowed. Fruit about 2 inches long, by 5 lines broad. Leaflets 3-4 inches long by 1 inch broad, sometimes unequal at base.

In swamps, Wilcox County, Alabama. Small trees about 6 inches in diameter, and 20-25 feet high. As Nuttall had not material for a complete description, none can tell what is meant by his *Fraxinus*

triptera; but as possibly he may have intended the tree now described, I call it Nuttall's Ash.

Carya Texana.—Leaflets 7-9, broad-ovate, or ovate-lanceolate, sharply serrate, smooth on both sides, paler beneath, acute at apex, subobtusate or acute at base. Staminate and pistillate catkins subpubescent. Fruit globular, slightly four-angled. Shell thin, separating to the base. Trees three to four feet in diameter, and forty to fifty feet high. Bark of trunk very thick, deeply and irregularly furrowed, not scaly. Leaflets 6-8 inches long, and 2-3 inches broad.

Dry soil. Common in Upper Louisiana, and in Texas extending as far west as Atacosa County. "Thick bark, hickory."

Quercus Shumardii.—Leaves oblong, or obovate in outline, smooth, deeply sinuate-pinnatifid, sinuses broad, convergent, 3-5 on each side, lobes many-toothed, teeth sharply and setaceous acute. Acorn globular, or ovoid-oblong, subacute, cup shallow, slightly turgid, scales acute. A large tree with shining deep green leaves, those on the upper portion of the tree being much and deeply lobed. The lobes are generally deeper near the petiole than towards the apex of the leaf. Acorn resembles *Q. rubra*, but is more acute, 1-1¼ inch long, and 6 lines to 1 inch broad. Limbs, trunk and branches much like the water-oak, *Q. aquatica*. Wood yellowish-white, fine-grained, and esteemed for rails, boards, and the frame-work of buildings. I have measured specimens which were six feet in diameter, with an estimated height of 70-89 feet. Its leaves retain their greenness long after the first frosts, when those of the frost-oak, black-jack and scarlet oak are dead.

It occurs in Upper Louisiana, Eastern and Middle Texas. Shumard's Oak. In honor of Dr. B. F. Shumard, State Geologist of Texas.

Quercus Texana.—Leaves ovate-oblong in outline, smooth, both sides deeply sinuate-pinnatifid, with broad, divergent sinuses, 3-5 on each side, lobes 1-3 toothed, teeth acute setaceous. Nut ovoid, oblong, acute, cup hemispherical, slightly turgid, scales acute, closely appressed. Tree 3-5 feet in diameter, and 60-70 feet high, branches smooth, bark of trunk of a dark slate color, slightly furrowed, very like *Q. phellos* and *Q. aquatica*, with which it is often associated. Lower leaves of this tree with lobes often truncate, while the upper leaves have deep, broad, divergent sinuses, and the upper lobes prolonged somewhat like those of *Q. falcata*. Like the water and willow-oak, its leaves are green during the first of winter. Acorn about 1 inch long, and ½-¾ inch broad. Leaves 4-8 inches long by 3-5 wide. A beautiful tree, with dense, deep green foliage, Wood close-grained, white, or of a light red color,

and used for similar purposes as the Shumard Oak.

Quercus Durandii.—Leaves obovate, entire, or slightly three-lobed at apex, with rudiments of one or more lobes at the margins, lobes very obtuse. When mature, smooth on both sides. Acorn round, or ovoid rotund. Cup very shallow, scales acute, closely appressed. Leaves 3-4 inches long, 1-5 inches wide. Acorns $\frac{1}{2}$ - $\frac{3}{4}$ inch long, about $\frac{1}{2}$ inch wide, scarcely one-eighth of an inch being included in the cup. Tree 2-3 feet in diameter, and 20-40 feet high, bark of trunk and branches light gray, scaly, like the white oak, (*Q. alba*). The leaves are mostly entire, varying from obovate to oblong-ovate. Wood white, close-grained, and very tough. It is often worked into splints for baskets to hold the picked cotton. Used for farming utensils, and sought after to make screws for cotton gins. Called 'Basket Oak,' and 'Bastard White Oak.'

Wilcox County, Alabama, Upper Louisiana, and Middle and Southern Texas. Durand's Oak. In honor of E. Durand, of Philadelphia.

Quercus annulata.—Leaves broad-ovate, entire or irregularly and sparingly lobed, sinuses shallow, divergent lobes very obtuse, upper surface smooth and bright green, under surface pale, smooth, or subpubescent, petioles short. Acorn oblong-ovoid, with a depressed ring near the apex. Style cylindrical, long, truncate, cup shallow, one-third the length of the acorn. Acorn 5-9 lines long, and 3-4 lines broad. Leaves 2-4 inches long, mostly lobed. Bark of trunk and branches light gray, scaly. Small tree or shrub, bearing a great abundance of acorns.

Common on the rocky limestone hills in the vicinity of Texas.

GUZMANNIA TRICOLOR is a new plant of the Pine-apple family, from the West India Islands. Of no great merit.

CHAMÆROPS FORTUNEI.—This palm is now well known as "Mr. Fortune's Chusan Palm," and has attracted considerable attention on account of its comparative hardiness. It is, indeed, the most hardy of all these princes of the vegetable kingdom that is as yet known to us, and the only one that has been proved to stand almost unprotected throughout the last ten winters in the latitude of London. In the Isle of Wight, under the shelter of the royal residence of Osborne, it has attained a height of ten feet in the open air, six feet being the height of the stem below the foliage, and its diameter fourteen inches at one foot from the ground. It has blossomed for the last three years, with no protection during the winter.* Our plants at Kew were introduced by Mr. Fortune, in 1849, and have attained

eight feet in height; the finest are moved into a conservatory during the winter, but others receive no other protection than a matting in the severest winter months.—*Bot. Mag.*

SOLANUM RUNCINATUS (*Runcinate-leaved Solanum*).—It is a native of Chili, and was raised at Kew, from seeds sent from Coquimbo. It is a really ornamental species, and well deserving of cultivation in a greenhouse, continuing a long time in flower during the summer months. The corollas are of a bright purple color, with five blood-red stamens radiating from the base of the lobes, while the large anthers are yellow, from between which the green clavate stigma is protruded.—*Bot. Mag.*

Domestic Intelligence.

NATIVE GRAPES NEAR BOSTON, by Mr. Davenport, in the *Boston Cultivator*. Mr. D.'s remarks on Rebecca confirms the views expressed in our last, that shade is of more importance to the grape-grower than is usually supposed.

The Delaware ripened with me this season from the 10th to the 15th of September. Vines two years out have this year made shoots twelve to fifteen feet in length, of strong, short-jointed wood. It is the most productive grape I propagate, and keeps long after being gathered.

Blood's Black Seedling.—A very hardy variety, never mildews, a free grower, of dark color, covered with a thick bloom, good size, flesh sweet and moderately juicy. It ripened with me this season August 25th to September 1st. Keeps well after being gathered.

Logan.—Ripened September 10th. An early grape.

Hartford Prolific.—Ripened with me this season September 12th. The dropping of this grape, sometimes complained of, may be obviated by judicious pruning and proper cultivation.

Marion.—Makes a dark-colored, rich, Port-flavored wine. Ripened September 1st.

Rebecca.—I do not class this with the other varieties spoken of, as to hardiness, for in most situations it should be covered in the winter. I find my vines of the Rebecca, where they are shaded some part of the day, are much more vigorous and productive in their habits than others not shaded. Ripened September 15th, and will keep a long time after being gathered.

The Diana begins to ripen a few scattering berries the middle of September, which are sweet as soon as colored; keeps improving till the middle of October, if allowed to hang so late.

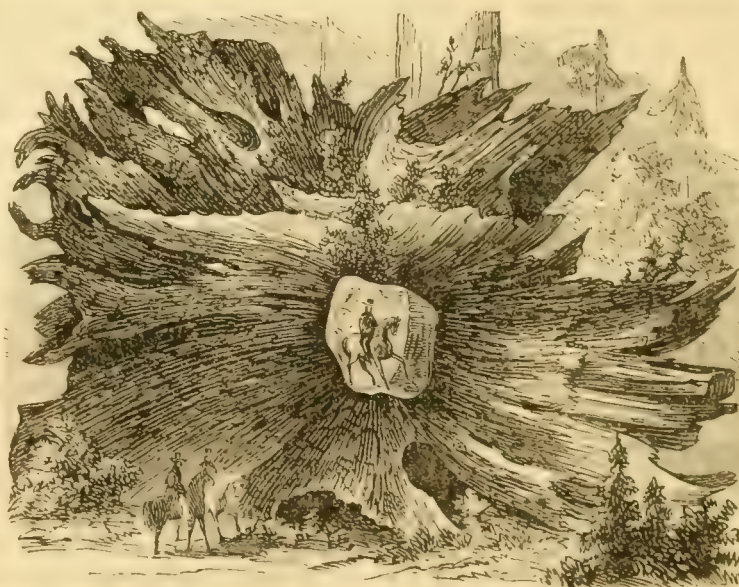
Concord.—Some of my vines ripened their fruit this season September 25th, but that of others more exposed was injured by the frost of September 30th.

* *Chamærops humilis* is also flourishing in the open air at Osborne, but requires a little protection in the severest weather.

WELLINGTONIA, OR SEQUOIA GIGANTEA; THE BIG TREE, OR WASHINGTON TREE OF CALIFORNIA.—We have not seen any thing that gives so good an idea of the immense size of these trees as the accom-



panying sketches from a French magazine. The one at the top of the page is ninety-five feet in circumference, and was, before the wretches—*arboricides* in the first degree—cut it down, three hundred feet high. The lower one shows an old decaying trunk, blown over many years ago, amongst the group in Calaveras County, near “Murphytown,” through which parties ride on horseback.



THE RED SPIDER.—The *Michigan Farmer* publishes the following recipe, discovered by Dr. A. Bush, of Detroit:—Twelve ounces common soft-soap, three ounces (by measure) turpentine or camphine; mix well together. This is for six gallons of water, which must be stirred well together, and applied with a common garden syringe, or the same proportion for any quantity.

Foreign Intelligence.

GRAFTING THE WISTERIA.—The Wisteria can be propagated by grafting by cleft the same as for the grafting of fruit trees. This method offers the advantage of having several varieties on one stock.—Best choose *frutescens* as stock, as it is a very vigorous grower.—*Revue Horticole*.

NEW ENGLISH RHUBARB.—Baldry's Scarlet De-fiance was awarded a First Prize, May 2nd, 1860, by the Pomological Society of London, when eighteen varieties were exhibited; a portion of each kind was examined, baked, and also a portion examined green. The Society report that it is unquestionably a First-class Variety, very stout in habit, medium in length; pulp deliquescent, high colored, and richly sub-acid. Excellent for market as well as private growers.

GRAFTING WAX.—If many stocks are to be grafted, take 27 oz. of common yellow rosin, melt it gradually so as not to drive off the turpentine. When reduced to the consistence of a syrup, add 10 oz. of alcohol, shake them thoroughly together, and pour the mixture at once into a well stopped bottle. When the graft is inserted and tied in its place with a strand of matting in the usual way, cover the surface of the whole with this varnish with a small painter's brush. Such varnish may be used in any weather, and is neither affected by heat, cold, or wet.

THE AILANTHUS SILK WORM.—At a recent exhibition in London, Mr. Standish brought over some specimen of the new "Bombyx," which is just now making such a noise in France, as it feeds on the *Ailanthus glandulosa*, a much hardier and easier grown tree than the Mulberry; while the worm itself is more robust than the common silkworm, breeds faster, and spins a large quantity of silk. As the *Ailanthus* flourishes well in poor soil, large quantities of it will be planted in France, and it is hoped will become a valuable article in the economy of the silk trade.

Horticultural Societies.

THE FRUIT-GROWERS' SOCIETY OF EASTERN PENNSYLVANIA.

The Annual Meeting of the Society was held at Reading, and was universally considered one of the most interesting and valuable the Society has held. Our limits forbid us to give more than a faint abstract of the most interesting portions, made up from the notes of our own reporter. The official transactions of the Society can only do full justice to the session. The President, Dr. Eshleman, delivered the Annual Address. It was directed principally to suggestions for the more perfect working order of the Society. Punctuality and promptness in the discharge of their

duties by County and General Committees were shown to be essential to the prosperity of the body, and in this connection the labors of the Philadelphia County Committee came in for a just share of praise. Alluding to the progress in the art of propagation by cuttings, he suggested, as well worthy of the Society's notice, the effect these and kindred matters might have on the longevity of trees. He regretted the oversight which led to no report from Pennsylvania to the National Pomological Society at its last session; recommended caution in the Society's recommendation of doubtful varieties; and in allusion to the partial failure of the grape in the district the past year, recommended a greater reliance on the culture of the small fruits. He spoke of the importance of suiting the variety to the varying kinds of soil; and characterized many of the new candidates for public favor as likely to prove no better than the Massachusetts White. Yet he would encourage the continued raising of seedlings in every legitimate way. The Delaware and Bland were probably but accidental seedlings.—Care in the selection of breeders and hybridization might produce a race as large and as luscious as the Black Hamburg. The rest of the day was occupied in the routine business of the Society; and as the amount of business before the body was very heavy, the full file of reports of the various committees were referred to the Committee on Publication for preparation for their appearance in the transactions.

Mr. Harrison, however, at the special request of the meeting gave an extempore address on organic and inorganic manures. He characterized general culture as a system of robbing without restoring, and pointed out the necessity of a fair supply of potash, soda and other minerals' existence in soils to render vegetable growth healthy. He gave various analyses of soils and vegetable organisms, pointing out their mineral and organic constituents and their several relations to soils and manures. He regretted that chemical analysis was necessarily imperfect, and that, in consequence of discrepancies in the results of different tables, less confidence was reposed in the matter than the subject really deserved. He also read the analysis of three of the best English and two American fertilizers, and pointed out their great deficiency in the most vital inorganic elements.

Nevertheless, he had great confidence in the general results. He then showed the great waste of labor attendant on the employment of stable-manure in which near three-fourths of the matter was mere water. Eight per cent. of a ton alone consisted of the necessary inorganic matter. Plants required more organic matter when growing, and more inorganic matter when maturing. Systems of manuring should be based on this fact. The wants of the plant, as shown by the analysis of its elements, should be studied, and its wants systematically or specially supplied. The absence of this produced defective sap, and he believed all diseases of trees had their origin in this source.

Organic matter in the shape of stable-manure he valued very little. If the mechanical condition of the soil was rendered perfect, he thought all the organic matter necessary would be absorbed from the atmosphere. Draining and subsoiling effected this. The atmosphere contained an inexhaustible supply of ammonia in the best condition for the use of plants, and if the condition of the soil enabled water to pass rapidly through it, air followed the water, and, of course, ammonia with it. He made repeated references to orchards within his knowledge to support his views. Orchards well cultivated with stable-manure, rapidly and surely dying out,—others on the mineral-manure principle, or in sod without stimulating cultivation, and only top-dressings of ashes or similar matters, exhibiting long years of healthy and productive usefulness. Amongst others, he alluded to the pear-orchard of Mr. Terry, of Hartford, which for the three past years had been laid down in sod, and only surface-manured, and the trees were marvels of beauty, models of form, and pictures of health.

To show that it was essential that all the special requirements should be present, he alluded to the fact that the French vintners manured specially different when the grape was required for table or for wine, stable or highly stimulating manure rendering the grape almost worthless for wine.

He alluded further to Smith's Lois Weedon culture, where, by draining, subsoiling, and alternate year fallowing, enough organic matter was obtained from the atmosphere, and the natural solution of mineral matter in the soil, to produce, without other manure, thirty-six bushels of wheat to the half-acre, and which soil, before he commenced his system on it only produced fifteen. This soil is naturally rich in mineral plant food.

He alluded to peach and plum trees, and gave his opinion, founded on careful observation, that black knot and many other diseases arise from the bad condition of the soil. He had known hot water poured at the roots of peach trees have some benefit, but did not explain his action.

We have given but a pitiful abstract of this interesting essay, which was listened to with marked attention.

THE ADVANTAGES AND DISADVANTAGES OF PRUNING

were then discussed.

Mr. Millhauer liked to have his trees trimmed high enough to plough under. Advocated trimming with an axe, objected to the saw. In a subsequent part of the discussion, however, he admitted that "his Rambo's and others had given out," and the Pennocks were the only ones that bore fruit any longer.

A. W. Corson cut out only all the useless wood for the first season, so as to give shape to the tree, but would prune very little after.

David Miller, of Chester County, was the Hercules of the evening for no pruning. He lets all kinds of fruit trees branch close to the ground, appearing like pyramids set on the surface. They are set closely together, so that they protect each other from sun and storms, and are enriched by their own fallen leaves. Only cuts out suckers. His orchards are ten years planted, and apples produce about fourteen bushels per tree. By his system, has no fear of branches breaking by their own weight, or being blown over by the wind.

A. W. Harrison would never prune if he could have the management of his tree from infancy. Would disbud such shoots with finger and thumb, as appeared where not wanted. Even in the raspberry, he only let such suckers grow as he wanted for fruit next year.

F. K. Cook remarked that systems of pruning depended on locality and climate. With him the Catawba Grape always rotted in proportion to the severity of the pruning it received.

W. Saunders viewed pruning in any case as a negative advantage. It was sound theory to remove the bud instead of the branch. Has made perfect specimens of pears without any use of knife. Whether pruning should be performed in summer or winter, depended on the object. If wood is wanted, prune in winter; if fruit, prune in summer. Fruit-buds are formed in fall,—pinching at that season, and producing new buds then, we therefore add to the bearing system of the tree. The subject was almost inexhaustible.

Mr. Baldwin, Dr. Eschleman and others gave their views, corroborative of what others had narrated. The last-named gentleman, in agreeing with Alan W. Corson's plan of only pruning during the first two or three years of the plant's existence, added that he did not cut close into the trunk the first year after transplanting, but left a snag a few inches long to bear a few leaves, which snags were, however, cut away next season.

CULTIVATION AND DISEASES OF THE APPLE.

David Miller, of Chester County, repeated his experience in low trimming. His soil was limestone. All his kinds did well, except Newtown Pippin, which bore but shyly.

Mr. Harrison, alluding to the last observation, remarked that all the most popular fruits gave out first. He thought this an evidence that high and stimulative culture had much to do with the fact, just as a pet child takes disease easier than more neglected ones.

Mr. Miller, referring to the wearing out of fruits, stated, that in his district a variety of pear, called locally the Arpine, (we understood, thirty years ago used to produce so abundantly, that they were sent to Philadelphia by the wagon-load. These trees, and trees grafted from them, now bear nothing but knotty, scrubby fruit.

Mr. Heines remarked that soil exhausted of the required elements, rendered the trees constitutionally diseased, and grafting from such trees fixed the habit to a certain degree.

Mr. Baldwin, referring to the exhaustive theory, remarked, that in some orchards where Newtown Pippins were diseased, he had seen Baldwins thrive to perfection.

Mr. Saunders, referring to the scab on apples, spoke of it as a fungus; and gave, as the result of extensive observation, that sheltered orchards were not near as liable to disease as exposed ones.

Dr. Eschleman remarked that it was only of modern orchards that failures were reported; and Mr. Saunders replied that agricultural improvements had influenced the climate, and with its winds and the amount of atmospheric moisture had changed.

Mr. S. Miller, of Lebanon, had seen the best crops in exposed localities, and very bad ones in well protected spots. His remedy was clean orchards and rich soil.

Dr. Kessler never crops his orchard; uses only the harrow to keep the surface clean. Has fine crops.

Mr. Grider knew an orchard that was never cropped or had any manure applied. He had seen apples in that orchard so abundant as to cover the ground under the trees in the autumn several inches thick. Another party bought the orchard, ploughed it up, and cultivated it, and has had no crop since.

Mr. Milhauer advocated ploughing, heavy pruning, and top-dressing, but his orchards did badly now. One time to give a neighbor a few apples meant a "sackful," but he had quite a different meaning for the term now. The Pennocks only did tolerably well, Kalamondins and others did not. The situation was exposed.

Mr. Harrison remarked that if in the same soil Pennocks did well when others did not, he thought it could not be soil or exposure alone, but an inherent weakness of the variety giving out, communicated, perhaps, by being propagated from a previously weakened stock. Attention to the general laws of health, as in treating a patient for consumption, was the only remedy.

Mr. Baldwin agreed with Mr. Saunders, that the clearing away of forests had rendered the climate more changeable, which might account for more diseases than formerly.

BEST MODES OF CULTIVATION TO PROMOTE FRUITFULNESS IN TREES.

S. Miller would manure and cultivate when young, put in soil

when older, and keep a circle clear around each tree by scraping. A. W. Harrison instanced two old Virgalien pear trees in Connecticut, standing on either side a garden fence, one in "culture," one in sod,—the first now dead and gone—the last bearing yet.

Mr. David Miller planted his trees shallow,—in fact, on the surface,—and seeded down at once with wheat. He mulched the following season with a compost of stable-manure, soapy water, hog pen scrapings, calashes, etc. In two years they had made a fine growth. It was then ploughed up and put down in corn, and not cropped, we understood, since. His peaches had been a great success. One year 173 trees produced enough fruit, at seventy-two cents per basket, to realize \$445. His whole system he summed up as follows:—Deep soil; plant shallow; branch the trees low, even to the surface of the ground, and apply a slight top-dressing of manure every year.

Mr. Saunders remarked that the topic under discussion was simply how to promote fruitfulness, and called attention to the fact that the intention was to inure into modes of dwarfing, root-pruning, bending down of branches, summer pinching, etc.

TRENCHING, DRAINING, AND SUBSOILING.

Mr. Milhauer had seen good results follow draining in clay soils.

Mr. Harrison alluded to Mapes' grounds, to Mr. Reid's nursery, and Ellwanger & Barry's specimen orchard, illustrative of the practical benefits that had been obtained from underdraining. Trenching and subsoiling are not so beneficial as underdraining. It was an error to suppose that only wet soil needed draining. People were misled by the term. It was a bad one. The dryest soils were rendered moist in summer by underdraining. At Mapes' farm water was delivered from the drains during the longest drouth. Aeration was a more characteristic term than draining.—Deep drains were best. Fifty feet apart and five feet deep were better than twenty-five feet apart and but four feet deep. Where there were no outlets, drains could be run into wells. He had noticed at Rochester that the benefits of draining were in exact proportion to the depth and frequency of the drains.

Mr. S. Miller, of Lebanon, had drained into wells successfully. His experience of draining so far had been so beneficial, that if he had the capital to command for the purpose, he would underdrain even his hillsides, satisfied that in time it would prove the best investment he could make. There were so many advantages,—first, for instance, from the air in well-drained soils, never penetrated deeply.

Mr. Baldwin stated that he had seen fine grapes on the prairies where no drains were used.

Mr. S. Miller replied, that when soil was filled with vegetable matter, as in prairie soil, it partook, in a measure, of the nature of our underdrained soil. A soil naturally porous may be said to be naturally drained.

Mr. Grider remarked that such Western implements as the Michigan Plough, and other subsoiling implements showed that they, too, were alive to the importance of draining.

Mr. Lukens Pierce and A. W. Corson also testified to the advantages of the practice.

Mr. D. Miller did not believe much in underdraining, and it was, besides, expensive. On the contrary, the most productive trees he had invariably found by the side of springs, streams, and mill-dams.

Mr. Grider called attention to the fact that Mr. M. had lost sight of the real effect of draining. Underdraining made ground moist in summer—not dry.

Mr. Saunders explained this more fully, and said Mr. D. Miller's observations confirmed the advantages of draining. He underdrained a tract of clay land five years ago to the extent of 30,000 feet of tile. The drains were only two and a half feet deep. The ground was worthless before, producing nothing. No manure has since been applied; but last season it produced, for the first time, a superior crop of grass. In heavy clay soils his drains seemed inoperative the first year. It took a season or two for the air to decompose the minerals in the soil, and for the water to find regular channels to the drains.

Mr. Milhauer had also noticed that fruit trees have done well alongside of spring courses led around hills; but always much best on the highest or hilly side.

Messrs. Grider, Harrison, and S. Miller gave further observations as to the good effects of the principle.

Dr. Eschleman explained further the aerating moisture depositing, and spring earthwarming principles of the practice, and had such good results from its employment, that grapes would grow five or six feet the first season in such ground, and has had Delawares to make a year's growth of sixteen feet, and Diana thirty-eight feet in the same way.

Mr. Saunders knew a market-gardener in whose underdrained ground vegetables were produced two weeks earlier than in that of his neighbors.

Mr. Heines thought that might be a disadvantage to fruit trees especially peaches, in bringing forth their buds too early.

Mr. S. Miller thought weakness from deficient draining rendered peach buds more susceptible to injury from severe cold.

The conclusion of our notes of this interesting meeting we shall, give in our next.





Caradeta punctulata



Caradeta



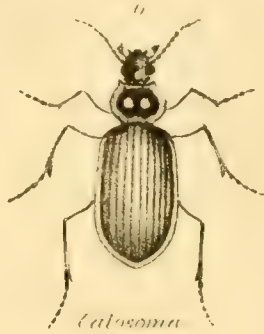
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Larva



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*Calosoma
scrutator*



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Larva



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Chlaenius



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californicus*



*Hypopus
Pennsylvanicus*



Hypopus



*Dacrydium
dilatatum*

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THOMAS MEEHAN, EDITOR.

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Hints for April.



FLOWER-GARDEN AND PLEASURE-GROUND.

TRANSPLANTING is the uppermost idea at this season,—deciduous trees at the North, and evergreen at points more South. If the roots of the deciduous trees or shrubs appear dry, puddle them before planting. This is done by making a hole in a clayey or stiff piece of ground, filling it with water, mixing in a little cow-dung or other decayed manure, and stirring up together into a thin mortar, into which plunge the roots, so as to coat them with the mixture. If the tops appear shrivelled, prune in the branches severely, the more in proportion to the danger of losing the tree. It is well to prune all trees a little at transplanting. Plant only when the soil is dry and the weather calm. Pack soil well in between the forks of the roots with a stick or the fingers, and tramp in hard and firm. If the soil is as dry as it should be, tramping well acts like a roller, and crushes the soil into fine particles, which does not dry up like soil tramped when wet, which thereby becomes consolidated, rather than disintegrated.

Suiting soil to trees is an important element in success. Where quick growth is desired, it "pays" well to improve the soil. A tree that will grow but one foot in a poor and thin soil, will often grow five in a deep and rich one. Subsoiling and manuring, and then choosing young, thrifty, and vigorous trees, is the way to get "big trees" in a very little time. We measured a tree, a few days ago, which was a seed five years since, that had been thus treated, and found it 25 feet high, 1 foot 8 inches in girth 3 feet from the ground.

All trees do better in a deep, rich soil; but for dry places, some will not do at all well. Amongst ever-

greens, as a rule, most of the pines will do well in dryer soils than others, the spruces in intermediate places, and the firs in more damp and sheltered spots. The firs will not, any of them, do in dry soils. The Balsam Fir, particularly, is a miserable object in a dry and exposed place, while in moist and sheltered spots it is one of the most happy looking evergreens we have.

Many evergreen shrubs supposed to be difficult of culture, are easily grown in a deep and cool soil. Rhododendrons, Kalmias, &c., do well where these conditions of growth are attended to. The former is supposed to do best in the shade; but it does better in the full sun in a good and proper soil, than in the shade in a dry spot. The fact that they grow amongst rocks on hillsides gives rise to the idea that they like a dry soil; but our experience in their native localities proves that the coolest spots on a hot summer's day is where these plants are found.

In all large gardens a small piece should be set apart for a nursery, where the commoner things can be grown, both as a matter of interest to watch cutting growth, and to supply occasional wants and deficiencies about the premises. The only fear in such practices is that the disinclination to throw away or destroy what may not be wanted leads the owner gradually to view what should be his pets as objects of commercial interest; and when that feeling arises, half the pleasure of pure horticulture departs. Cuttings of most kinds of flowering shrubs root well if taken off just before they begin to shoot, and inserted full two-thirds of their length in a border of rich, light soil, prepared in a partially shaded place for them.

Almost all kinds of hardy ornamental trees will graft on kindred species, so that when any kind proves objectionable, others more favored may be grafted on them, and a change thus be effected without much labor and time. Several kinds may also be grafted on one tree, and thus interesting combinations be made on the same plant. In the latter case the weakest growing kinds should be placed near the top of the tree, and stronger kinds lower down, so as to make the growth ultimately equal. Hardy Perpetual Roses are often budded on the Manetti

stock, which renders the bloom much stronger and finer, and, many say, the plants more hardy and durable; but suckers from them are very frequent, and if not taken off, they ultimately destroy the rose grafted on them. Roses should be examined now, and any such suckers that may have before escaped notice be taken off. Some are not able to distinguish Manetti Rose suckers from the "good" roses; and others will be in doubt whether their roses were budded or not, especially as some rose-growers grow their roses by grafting scions on pieces of roots, and sell them as "roses on their own roots." But even these at times produce suckers, and the safest plan for those who are not well acquainted with the stock is to take off all suckers that spring from their roses at or near the surface of the ground.

Roses like new and fresh soil, and the ever-blooming kinds, such as Tea, China, Bourbon, and Noisette, may be removed every other year to other parts of the flower-garden without much injury to their flowering the same season. They must be pruned severely, however.

April is the month when every one visits his neighboring florist's greenhouse in search of new or choice bedding plants. A great many new introductions of last year are now getting cheap, and will be fully tested on their merits this season. For instance, the new Chinese Dianthus, *Silene rubella alba*, *Pyrethrum*, *Cuphea Danielsiana*, Double *Zinnia*, *Gazania splendens*, &c. It is singular how long it takes a plant to become new and popular. To the father of the writer of this, the horticultural world is probably indebted for the preservation of the *Gazania splendens*, or *uniflora* as a variety was called in his time; and nearly twenty years ago the writer called attention to its merits as a bedding plant in one of the gardening periodicals of the day. But that was in a moister and cooler climate, and our experience then with it does not warrant us in believing it "will do well in hot, sunny places."

Climbing vines are great objects of interest in a flower-garden. Very pretty conceits may be formed out of them in connection with baskets, mounds, pillars, trellises, arbors, &c. The following are some good ones that can be raised from seeds sown now: *Calampelis scaber*, *Loasa aurantiaca*, *Lophospermum erubescens*, *Nasturtium*, *Thunbergia*, *Tropæolum*, Morning Glories (*Ipomæas*), and *Fumaria* or *corydalis*. Kinds that are best set out as plants, some popular ones are *Solanum jasminoides*, *Maurandia*, three kinds, red, white, and blue, *Pasion Flowers*, *Ipomæa Learii*, *I. ficifolia*, *Cobea scandens*, *Senecio scandens*, *Mannetta glabra*, and *Physianthus albens*.

In choosing plants from a florist for bedding, select such as are dwarf and stocky and have been, if possible, a little hardened by exposure to the air.

Hanging vases for arbors, piazzas, and rooms have become an "institution," and demand recognition in this regular column. A list of six good kinds of plants for the purpose, that can be obtained anywhere, is: *Tradescantia zebrina*, *Linaria cymbalaria* (Kenilworth Ivy), *Lysimachia nummularia* (Moneywort), *Saxifraga tomentosa*, *Sibthorpia Europæ*, *Selaginella* (any of the trailing species), *Vinca major variegata*.

We would repeat what we have before advised, that the amateur should pay more attention to the cultivation of florists' flowers, as a source of refining amusement. The Carnation, Auricle, Pansy, Polyanthus, Phlox, &c., afford those who have no greenhouse a chance to enjoy this gratification cheaply, as they require but the protection of frames in winter. *Gladiolus* have been much improved the few past years, and "everybody" grows them, as they seem much at home in our climate. Now is the time to set them out. The same applies to *Tuberose*s. Box-edging may now be cut, tender annuals sown, and the whole place speedily put in order to receive summer company.

VEGETABLE GARDEN.

In dry soils and very southern localities, gardening has already commenced in this department; but very little can be done generally till now, for, in spite of all that has been said of the advantages of underdraining for so many years past, not one garden in a hundred is so improved, though it is a well-ascertained fact that such ground can be worked much earlier in spring. It is a great mistake to crop ground till it is so dry that it will not compress when trodden upon. Ground worked when wet is the first to dry out when dry weather sets in. Peas, potatoes, early cabbage, spinage, salsify, lettuce, radishes, and onions require the first attention among seeds; and for permanent root crops, asparagus, rhubarb, sea-kale, horse-radish, parsley, and herbs such as thyme, sage, &c. After this come beans, late cabbage, carrots, parsnips, beets, leeks, &c.; and towards the end of the month or beginning of May, tomatoes, egg-plants, peppers, celery for early crops, cucumbers, melons, and the more tender varieties.

Every one makes it an object to have vegetables as early as possible; and through our last two volumes many hints have been given to bring crops forward. We saw in an agricultural paper somewhere, recently, the recommendation to scoop out

turnips, and fill with rich soil, and set an egg-plant, tomato, or other desired plant, one in each turnip, keeping them in the hotbed till time to set out, when the turnip and all was planted. The idea struck us as any thing but a bad one.

Communications.

THE NEW ROSES.

BY JOHN SAUL, WASHINGTON CITY, D. C.

As there is no other flower so popular or universally grown as the rose, neither is there one in which a greater improvement has been effected by florists. They have recently given us classes of Autumnals which rival or exceed in beauty their namesakes of June. Among those are the beautiful class of Perpetual Moss, fully equalling, or surpassing, that class of summer. Again are the beautiful Hybrid Perpetuals, exceeding in brilliancy of coloring the Gallicas or Damasks, and rivalling in fragrance the Provence. Other classes may be cited with claims equally great.

The number of seedlings sent out annually of those various classes is considerable. They are principally raised by French florists; though of late some of our own have sent out several good flowers. Cultivating considerably all the newer sorts, I thought some remarks made from flowering plants in my collection might be interesting to your readers. We will begin with the finest class of all.

HYBRID PERPETUAL.

No others stand so high in Europe or this country. Perfectly hardy, for the most part vigorous growers, with finely-formed flowers of every hue—deliciously fragrant. Among these, Ambroise Verschaffelt is a fine purplish rose, dark lilac edges, large, double, and of good habit, vigorous, free grower, beautiful. Anna Alexieff is a luxuriant grower and free bloomer, color a clear rose, and fine form. Anna de Diesbach has been figured in "Paul's Rose Annual for 1859-'60," and highly commended; with me it fully maintains its high character; flowers are very large, of a fine, clear rose color. Adroisee de Lyon is a most robust grower, producing large bold flowers, very double, crimson and slate color. Arvide has flowers of a rosy salmon, very distinct and fine, vigorous habit. Beaute de Royhem, a rose occasionally edged and striped with white and carmine, growth moderate. Bouquet de Marie—we have here a color wanted in this class—a pure white; the flowers individually are small, but produced in clusters like a Noisette very double and pretty, a vigorous grower. Comtesse de Chabillant

—this exquisite rose is figured in "Paul's Rose Annual" for the present season; we only occasionally get so fine a flower, one that is destined to be as popular as Geant des Batailles, La Reine, Souvenir de la Malmaison, Devoniensis, &c.; flowers are a beautiful rosy pink, finely cupped, large and double, very sweet and good. Delamothe has flowers of a shaded rose, large and double, of vigorous growth. Eugene Alary gives flowers of violet rose, beautifully cupped, large and double, a vigorous grower, beautiful. Eveque de Nimes—this flower is now pretty well known, but I cannot pass it by without a notice—one so gorgeous, flowers in form like a rosette, large, double, of a brilliant purplish crimson, glowing, superb. Empereur de Maroc approaches, or quite equals, the old Tuscany Rose in color, rich velvety maroon, of fine form; this will prove one of our standard flowers. Imperatrice Eugenie, an exquisite gem, habit rather dwarf, white, sometimes tinted with rose, double, distinct and beautiful. L'Abbe Feytel is a robust grower, giving large double, fragrant flowers of brilliant rose. Louis d'Antriche has deep violet flowers, very large and double, a vigorous grower, fine. Louise Magnan, a white, tinged with flesh, large, full flower, habit very vigorous. Madame Bruni has a most vigorous habit, a free bloomer, color a delicate peach, large and double, Provence-scented. Madame de St. Genet is a robust grower, flowers a bright crimson, shaded with violet, large and double, a superb rose. Madame Varin—an exquisitely-formed flower of a delicate pink color, large and double, a vigorous grower. Mademoiselle Auguste promises to be a standard flower, color a bright glossy pink, large and double, fine shape, vigorous grower, magnificent. Mademoiselle Boyer is a vigorous grower, flowers glossy pink, cupped, finely-shaped, large and full. Mademoiselle Haiman—in this variety we have a new and lovely color, brilliant cerise, not very double, finely cupped. Mignard is a bright crimson rose, light edges, fine shape, vigorous grower, a very beautiful rose. Oderic Vital, a very robust-growing variety, flowers are very large, double, of a silvery rose. Queen of Denmark has been figured in the "Rose Annual" for 1859-'60; color lilac flesh, transparent, very large and double, finely shaped, a magnificent flower. Triomphe d'Avranches is a beautiful brilliant crimson, very large and double, a superb rose. Virginal, superlatively beautiful, pure white, large and double, of excellent shape, growth moderate, very distinct.

BOURBON PERPETUALS.

This class, less numerous than the former, has given some pretty flowers. Lord Elgin is a vigorous grower, of fine habit, flowers blackish-purple

and crimson, a very beautiful and distinct new flower. Lord Palmerston has flowers cherry red, full, fine form, profuse bloomer, a distinct and exquisite rose. Madame Comtesse, flowers flesh-color, large and full, vigorous grower, beautiful. Thomas Rivers has fully come up to its reputation the past season, bright rose, with deep centre, large and double, a vigorous grower and free bloomer.

BOURBON ROSES.

In this class we have a few good novelties, though of late years it has not increased in numbers as the Hybrid Perpetuals. Comtesse de Barbantanne is of dwarf habit, flowers flesh-color, large, full and finely shaped, a very beautiful flower. Dr. Berthet is a brilliant cherry red, large and double, of fine form and vigorous growth. General Blanchard—the habit of growth is moderate, flowers transparent rose, good shape, double, a pretty flower. L'Avenir proves a vigorous grower and free flower, a brilliant rose, large, full, and of good form. Madame Marechal, flowers a clear flesh, white edges, double, moderate growth, very good. Monsieur Jard may be classed among the vigorous growers, color a cherry red, large and double, very beautiful. Octave Fontaine, white, tinted with flesh-color, fine form, growth moderate, a very beautiful flower. Omer Pacha is of moderate growth, color brilliant crimson, large and full, a superb rose. Souvenir de l'Exposition—the growth of this is moderate, color dark crimson, dazzling, large and double, one of the finest deep roses in this class.

NOISETTE ROSES.

Novelties here are few. Favilla, a vigorous grower, with flowers of a purplish-crimson, large and double, is distinct and good. Jane Hardy, like Isabella Gray, but flowers said to expand better, which has proved to be the case with me, rich yellow, large and very double, growth vigorous, foliage beautiful, a superb rose. Mademoiselle Aristide, a variety of much promise, a luxuriant grower and free flowerer; color a pale yellow, centre salmon, large and double.

TEA-SCENTED.

We have here many good new sorts. Archimede, a rosy fawn, dark centre, large and full, growth moderate. Gerard Desbois is a vigorous grower, flowers bright red, large and double, very showy, a fine new flower. Homer, flowers rose, centre salmon and flesh, variable, large, full, globular, growth very vigorous, a superb rose. Madame Damazin, a fine vigorous grower, color a salmon-flesh, large, full and of fine form, beautiful. Madame William—this flower I have bloomed the past two summers, and it has fully maintained its character as one of the finest new yellow roses; Paul described it as

nearly intermediate between Elize Sauvage and De voniensis, which it appears to be, large, full, and of fine form. President—this fine new Tea has been figured by Paul in his "Annual" for 1859-'60, and more recently by Moore in the *Floral Magazine*; color rose, shaded with salmon, large, full and of fine form, growth very vigorous, superb. Socrates, deep rose, centre apricot, large and double, a vigorous grower, fine.

THE CINERARIA.

BY W. KEATING, BAYOU SARA, LA.

It is not always that we see this nice and useful flower grown or bloomed as it can and ought to be with but little expense and trouble if it is done in season and properly. In a climate like our's, (indeed, in any,) the chief success depends on the first efforts; that is, get the plants well established ere winter. I sow my seed the latter end of August in pans half-filled with broken pot-sherds, using a compost of equal parts of peat, leaf-mould, and sand, well broken, mixed, and sifted. I put the coarse siftings over the pot-sherds; fill with the fine; press the whole nicely with the bottom of a flower-pot; sow the seed; cover lightly, and then water with a fine rose-pot. A close frame, set on coal-ashes and facing the north is, by far, the best position to place them in at this warm season; for in this way the direct rays of the sun do not strike the glass. And by sprinkling and shade, the atmosphere is kept moist and humid,—two essential points to get the seed to germinate quickly.

When they begin to appear, air must be admitted; but harsh currents must, at all stages of their growth, be avoided. And when they are sufficiently large to handle, they require pricking into pans or pots as directed for the seed; returned to their former quarters, and kept close for two or three days. This rule it is quite necessary to adhere to each time the plants are repotted. By the time they cover the surface of the pans, shift into small pots, and be careful to get them up with soil attached to their roots. As soon as they have filled their pots with roots, shift into larger, and continue to do so until they are in a convenient size, say eight or nine-inch pots. The soil now used ought to be two parts of loam, one of leaf-mould, and one of well-rotted cow-manure, with a liberal supply of sand. This to be rough and well mixed with pots well drained will insure success under any circumstances, climate, &c. It will be found necessary to go over the plants often, and remove decayed leaves, &c.; and as they progress in growth, more room must be given. No plant, perhaps, is more impatient of heat—artificial heat—than the cineraria; consequently I find a cold

frame well protected. As the skill of the grower may devise, the best place for them till coming into flower, when, of course, they will be removed to the stove-house or conservatory, there to repay with their beauty all the interest bestowed on them. Some prefer pinching the flower-stems, but I do not; for by leaving them, they produce better and more robust blooms. And again, if pinched, they are too liable to become straggling or uneven, and much of their beauty is diminished. If they are wanted for exhibitions, care must be bestowed on forming the plants and making even the heads of bloom. This is done by pressing the young shoots down, or by tying a string under the rim of the pot, and laying a few small sticks across, fasten them to the string, and then tie as they advance, keeping them both dwarf and even. I need hardly remark that good named varieties must be grown for the latter purpose; and when done blooming, cut down and planted out on a shady border in a rich sandy soil. Attend to them with water, and in August or September take the young root-shoots and pot singly into small pots, and follow the directions given.

I promised success under all circumstances. I did so for two reasons. The first is, I never saw a failure, and I lived with a man for three years who took the first prize at one of the first Metropolitan Exhibitions in Europe for a number of years. The other reason is, when I came here to the South as gardener last fall, Mrs. Fort, who is passionately fond of flowers, told me it was difficult, if not impossible, to grow them in this warm climate; but now she evinces the greatest pleasure and some surprise in daily viewing their health and strength.

If it would interest any of the readers of your valuable journal, I will be but too pleased to inform them of my future mishaps or success with the cineraria. [Please do.—ED.]

A CHEAP HOT-WATER PROPAGATING-TANK.

BY M.

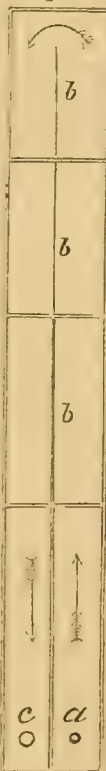
THE principle of heating by hot water flowing through open tanks was first invented by Mr. Rendle, a nurseryman at Plymouth, England, about twenty years ago. For a time it attracted great attention. The simplicity of its principle and the economy with which it distributed heat, together with the moisture combined with it, seemed to foreshadow its universal application to all purposes where bottom-heat was required. Like many more good principles, however, it was found, in time, to be expensive, through the difficulty of preventing leakage, unless tanks very costly in the first

outlay were employed, and consequently the system has fallen into disrepute.

Believing that the principle was capable of a cheaper application, the following tank was constructed three seasons ago, as an experiment; but it proved so efficient, that it has been suffered to remain as at first put up, without any alteration, modification, or repairs. In fact, matters, which from their supposed weakness indicated but a temporary use for the structure, proved its strong points, and the acme of its perfection.

The tank is built on strong trussels, in and at the place where it is to stand. It is formed of one-inch white pine boards, with their side edges planed quite true by a good workman, and *not* tongued or grooved. Tongueing and grooving is an evil. The end edges are cut quite square. The end edges are, in a manner, tongued and grooved; but hoop-iron is used for the tongue, and a groove is made in each of the two meeting edges of the boards by a saw, and the iron forming the tongue driven tightly into the groove thus made. The iron corrodes a little in the wood, and a water-tight joint is effected.

Fig. 2.



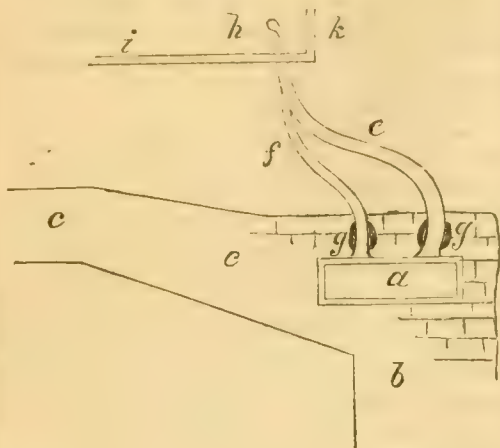
Across the top of the tank, every four or five feet apart, hoop-iron is stretched and carried down the sides of the tank (which are six inches deep), and is fastened to the edges of the bottom boards of the tank. This prevents any spreading out by weight of water in, or pots or soil on the top of the tank. As a covering to the tank, weather-boarding is used. Slate was thought of; but on a careful balancing of advantages and disadvantages, profit and loss decided on wood. Leaking was the only point feared from a tank so cheaply constructed. To guard against this, the tank was filled with water, and a hot fire, on a sunny day, made in the house. The water in the tank kept the joints closed, while the external heat caused the joints on the outside to open near an eighth of an inch, into this caulking (pitch and tow) was firmly plugged, the operation occupying one man two hours, and it has kept perfectly tight to this day.

Fig. 2 is a "ground-plan" of the tank, the arrows showing the circulation of the water, which enters the tank at *a*, passes round the division-board *b* to the return-pipe *c*.

The circulation is effected by the connection of a small boiler and lead-pipes with the tank (Fig. 1). *a* is the cast-iron square boiler, bought in a second-

hand iron store. It holds about two or three quarts of water, is about fifteen inches square, and forms the head of the furnace below (*b*), of which *c* is the flue. *e* is the return-pipe, placed near the end at the

Fig. 1.



furnace-door, which is the coldest part of the boiler. *f* is the flow-pipe, at the warmest end of the boiler. The pipes are of lead, soldered on to the cast-iron nipples of the boiler at *g*, the whole of which is imbedded in the brick and mortar work of the furnace, the flue of which (*c*) runs along in the house under the tank.

It was supposed that the circulation would be aided by making the return-pipe (*e*) larger than the flow (*f*), and by carrying the flow two inches above the bottom of the tank, where it curves a little (*h*); *i* being the bottom, and *k* the end of the tank, which, as represented in Fig. 2, is thirty feet long by three wide. Leather washers are put around the pipes at their connection with the tank, white-lead put under them, and nailed closely down with tacks to prevent leakage there. With but two inches of water in the tank, and a moderate fire, the temperature of the water at the flow-pipes is 120°, at the return 90°, having lost 30° in its circuit of sixty feet. When there is necessity of a very strong fire on cold nights, three or more inches of water is put in the tank, which keeps it from getting too hot.

The whole of this structure, including tank, pipes, and boiler, (furnace and flue had been built before,) labor and materials was under twenty-five dollars, and is deemed as durable and substantial as if one hundred dollars had been spent on it. "Nothing new" is claimed for the principles, as "the critics" may be informed in advance; but for substantiality and cheapness, it cannot be, perhaps, surpassed. Hundreds have been since built on the same model

by many enterprising nurserymen and amateurs in different parts of our country, to the great satisfaction of the writer of this chapter, who feels more pride in the substantial advancement of the interests of horticulture and horticulturists, than anxiety for any particular credit his humble labors may be worth.

Since writing the above, an article in the *Country Gentleman*, by Mr. J. Salter, of Rochester, details a very expensive affair erected by that gentleman, the inside lined with lead, &c., and which contains the astonishing announcement that the system of heating houses by shallow hot-water tanks, instead of pipes, originated with him! But the description of misapplied power the article furnishes, shows that Mr. Salter was not really acquainted with the history of tank-heating, and that in the originality of his idea he is, *honestly* mistaken.

LANDSCAPE-GARDENING.

BY THOMAS MCCLUNIE, WESTERLY, R. I.

It has been asked, *Is landscape-gardening an art or a trade?* I should say it is as much one as the other. Mechanical arts are trades. The fine arts are more scientific, and call forth a greater exercise of mind, refinement, and natural good taste. Landscape-gardening may be defined as a science, practical in its developments. It embraces good taste in arrangement, combined with scientific and practical gardening, applied to beautify the landscape.

Simple gardening, or gardening without landscape prefixed, is also a science, practical in its developments. It embraces botany and a knowledge of the various kinds of care each plant requires. Chemistry also aids it.

Landscape-gardening, like good taste, is a gift, and every lover of the fine arts is supposed to possess the gift of good taste. The height of good taste is the love of nature. But it is necessary first to familiarize ourselves with nature's forms, before we can form a model of taste.

It is the pursuit of every good gardener to know the real character of the plants he is dealing with. It is the gardener's business to assist nature and provide for the wants of the plant, that it may develop itself in healthy beauty. So, on these grounds, we would claim that it takes a gardener to be a *landscape-gardener*.

I would not count a man not a landscape-gardener because he was not born and brought up in a garden; but he should be a practical gardener. It is the study of a lifetime to be a proficient in all the branches of gardening, and too much time cannot be afforded to mere extraneous branches.

I would not blame the Frenchman, German, or New Yorker with the faults Mr. Woodward proposes. But too much of any thing is a hindrance, —not more so to gardening, in particular, than to any thing else.

I never meant to say that because a man may be a proficient in any other business, that he is unfitted for the duties of a landscape-gardener; but he is unqualified to beautify the landscape to an exalted degree of perfection, unless he is or has been a practical gardener.

As illustrative of these views, I would further remark: First. Landscape-gardening is *gardening*.—THE MAKING BEAUTIFUL by the scientific and practical application of planting, digging, levelling, mounding, dressing, building, or removing unsightly objects. Also manuring, draining, and general improvement of the soil, that grass, trees and flowers, vegetables and fruit may grow to perfection when planted. And it is of the utmost importance that the designer should be able to direct the work, or to do it. If he is not, his qualifications to design are of the most limited nature. He may see the castle or garden in the air, but he cannot command the material to make it permanent. He may think he can go to the nursery and get what trees suit him, and so on; but the trees will not remain as he plants them. The big tree, costing five dollars, will be outstripped in three or four years by the little one at its side that you paid twenty-five cents for; and that handsome little evergreen that he planted on the walk, will probably have to be cut down or trimmed out of shape in two years, because its branches will extend twenty feet in diameter in a very little while. Paint remains where the painter puts it, but your trees run away and spoil the picture.

And so a gardener must know the proportions that his trees will attain. He has this foreknowledge to govern his taste in creation of landscape scenery.

A farmer, to have healthy stock, must know how to feed them. Chickens and horses do not feed alike; neither do plants, and a gardener knows their necessities. Science is often lost without a knowledge of minute practical details. Even Barnum has been humbugged by the lack of it. While on his farm at Bridgeport he read in the *New York Herald*, that to steep potatoes in copperas-water for a given time, would prevent the rot. It is said he did so, and planted them; so they did neither rot nor grow. And an inexperienced hand in tree-planting, when attempting grace and ease in design, may produce the reverse by injudicious combination.

A doctor sent an order to an apothecary for two

articles, to be applied separately to a patient; but as "separately" was not mentioned in the order, (the doctor thought it unnecessary, supposing the apothecary should know,) the apothecary put up the articles in one bottle. The doctor coming in, inquired, "What have you done? Don't you know that these combined make a deadly poison?" The apothecary laughingly applied the bottle to his mouth, and said, "Haven't I drank them repeatedly?" then fell backwards and died.

So in gardening,—things well enough by themselves work badly together. An injudicious application of fertilizers will kill a tree or plant, and an injudicious combination of trees, &c., will kill all harmony.

Landscape-gardening is not absurdly inexpressible, If you are a good gardener, you only want to add the gift of good taste, and improve the combination. Mark what has been done in the art, and excel it if you can.

Many a good horticulturist and florist are not skilled nor have the taste to lay out grounds; but from the gardeners we would select or make the *landscape-gardeners*, as a captain would select a mate from experienced navigators.

All the absurdity concerning architects, surveyors, civil engineers, draughtsmen, and painters becoming landscape-gardeners, is that they should, all at once, become possessed of those acquirements that take professional men a lifetime to learn!

I never read Mr. Copeland's work on the subject, but am pleased to think my views agree with his.

NOTES ON THE LAWN GRASS SUBSTITUTE—SPERGULA PILIFERA.

BY B. C. TOWNSEND, ESQ., BAY RIDGE, LONG ISLAND, AND H. W. SARGENT, ESQ., WODENETHE, N. Y.

The following is an extract of a note from Mr. Townsend, received too late for our last number. We enclosed it to Mr. Sargent in the interim, and have been favored with further particulars from him, and the two letters together will be read with great interest by the whole public who have been watching for the earliest reliable information on the subject.

With regard to Mr. Townsend's observation on the sand of Long Island we may remark, that the English themselves have conceded its unfitness for such soils, and recommend for this, instead, the *Spergula procumbens*, which, they say, does well in sandy places. The following are Mr. Townsend's observations:

"THE *Spergula* is greatly eulogized in England, and, although there is even there some little hesita-

tion to entirely endorse its use in some quarters, yet the bulk of the testimony seems to be in favor of introducing it in all gardens where high finish is required, and for lawns even of considerable size, as it saves the great labor with the scythe, and only needs rolling say once a week. I am somewhat discouraged in my own trials of it; but as I live in a decidedly sandy district and did not prepare soil especially for it, it may be that the trial is not a fair one, and if it answers in localities where a loamy soil abounds, and answers well or stands the intense heat of summer, I should, on learning that it thus succeeded, feel inclined to prepare soil especially adapted to its culture. On my return from England in July last, where I had seen it doing finely with the heavy rains they had there, I was much pleased to see my plot (which was planted early from young plants pricked from pots from seed sown early, and, by-the-by, the seed germinates very readily) looking of a fine healthy green, and completely covering the soil, although single plants were pricked in at about two inches apart. It thus spreads and covers the surface close and evenly. But in the months of August and September, what with the intense heat and want of rain, it began to die out in great brown patches, looking altogether in a very wretched condition, showing it to be, in a sandy soil, although well and deeply trenched, quite unsuitable. The fall rains seemed to revive it, and from the bare spots the roots began to start again and throw a new growth thinly, but it never recovered a decent appearance. It is now covered with snow, and what its condition may be next spring remains to be seen; but unless I am encouraged by trials in other quarters or soils which may seem better adapted to its culture, I shall abandon the attempt to grow it.

"For those who know the labor connected with the proper keeping of a lawn in this country, even with the patent mowers, this grass promised a great relief, and in my district much interest is felt in the matter. If, therefore, you can, from other experience, encourage us to persevere, I should be glad to know it. If not, perhaps the experience here narrated may save much unnecessary labor of the same kind; for there are, doubtless, many like myself either in a quandary or possessing information which we all want."

Under date of February 25, Mr. Townsend writes:

"Since I wrote last, the snow has disappeared, and my plot of it looks wretched, indeed. I feel almost certain that it will not succeed on sandy soils. The sun in the height of the season will destroy it."

Mr. Sargent writes:

"I cannot really say any thing definite about the

Spergula. It certainly has not gone on progressively improving, and yet it has not failed sufficiently to warrant its rejection without further trial. I should say, in a few words, that it certainly seems to do better in the winter than in the summer; or rather to stand the winter better than the summer. Even this remark should be qualified, because it has not been tried (by me, at least,) in an open winter. Under snow, and even under transparent ice, it comes out beautifully green and fresh, and continues to hold its color perfectly well uncovered since the snow has disappeared, though every lawn that surrounds it is quite brown.

"I think I could venture to say, from two winters' experience, that I do not fear the cold. But I am not so sure about the heat. The experience of your correspondent from Bay Ridge is similar to mine. In July and August it certainly does get spotty and die back in brown patches, which would destroy its value for a lawn; and yet I do not know that it looks worse than many *young* lawns do in severe droughts.

"I have observed that when the sods get thick (some of mine are from two to three inches thick) and form a deep, dense mat, like a piece of green velvet three or four times doubled, that the sun does not affect them, but they preserve their color and elasticity through the hottest weather, but patches of it, only one-quarter to one-half an inch thick, scorch and wither irregularly.

"I cannot, therefore, help hoping that when the sods get well established, thick and tough, that the heavy, dense, closely-packed mat they form, aided by the deeply-descending roots, may make it valuable in the same way as an old sod resists drought when a newly-laid-down lawn will not.

"I shall certainly act upon this impression for another year before I abandon it; for I am not without belief that we may be able to establish it in this country, though it will require longer time and more perseverance than in the moister climate of England."

TORREYA GRANDIS is, in its native habitat, a noble tree, rising to the height of 100 feet, and perfectly hardy; so much so, as to have stood the last winter out of doors at Hamburg.

C. D. GOODRICH'S SEEDLING POTATOES.—In the *Prairie Farmer* of Dec. 6, Oliver Taylor, of Loudon, Virginia, who has thoroughly tested Mr. Goodrich's seedling potatoes, among which are the "Early Peruvian," says it has not its equal in all the characteristics of a good potato, also the "Garnet Chili" and "New Kidney," which have many good qualities.

ENTOMOLOGICAL ESSAY.

Read before the Fruit-Growers' Association of Eastern Pennsylvania at its Meeting in West Chester, on the 13th day of June, 1860.

BY S. S. RATHVON, ENTOMOLOGIST OF THE ASSOCIATION.

(Continued from Page 71.)

INJURIOUS INSECTS.

As to the remedies to be employed for the destruction of insects, much remains for development; and therefore I would suggest to gardeners and fruit-growers, that they avail themselves of all the means that may come to their knowledge, unless they have reason to believe that the remedy would be worse than the disease, and would involve the injury of their vegetables and trees to a greater extent than if the insects were not disturbed. Many of the remedies employed, however, for preventing the curculio from attacking fruit, can do no harm, if they do no good; at the same time they betray a great ignorance of the capabilities of the insect. Smearing the trunks of the trees with a band of tar or other sticky substance, or tying raw cotton around them to prevent the insect from walking up the tree to get at the fruit, seems to be a very simple contrivance to baffle such an enemy as the curculio is. It must be borne in mind that this insect is provided with an ample pair of wings, which lie folded up under its rough wing-covers, and that, when occasion requires, it can also make ample use of them. Spreading a sheet under the tree and jarring it, morning and evening,—when the insect mimics death and will drop into the sheet, and should be immediately burned, for he does not long continue thus to “act the possum,”—seems to be the most practical remedy. There are some insects, however, that may be prevented from ascending trees by the employment of gum, or tar, or some other sticky substance, either smeared on the bark or on a rim of leather or paper placed around the trunk of the trees. There are a number of destructive caterpillars, the female parents of which are destitute of wings; and as some of these undergo their transformations in the ground, when they come out they cannot ascend into the tree to deposit their eggs, for their progress up its trunk will be interrupted by the contrivance alluded to. But there must be frequent renewals of this smearing, and it must be of such consistency as not soon to harden, in order to have the intended effect.

At the proper season the flowers of the *Ailanthus* should be collected and dried and kept for such occasions as they may be needed. A decoction of these flowers, or of tobacco, or of soap and salt, or of lime-water, is often useful for the expulsion of aphides, rose-bugs, cucumber-beetles, and other insects, if assiduously applied and at the proper time. With these remarks, I conclude this part of the subject, and call the attention of the Society to the consideration of a few species of insects that are our most efficient auxiliaries in reducing the population of those insects that are hurtful to vegetation.

BENEFICIAL INSECTS.

In this concluding part of my remarks I propose to introduce a few of the insects beneficial to man, or not his enemies, in order to contrast them with those described as noxious or hurtful.

1st. *Cicindela sexguttata*, Fab. “Green Tiger Beetle.” Plate IV. fig. 1. Length, half an inch; color, a bright green, sometimes a blueish green; three small white spots on each wing-cover, one at the end and the other two on the outer margin, the upper one of which is about midway between the base and apex of the wing-cover; in some specimens one or more of these white spots are wanting, and in others they entirely disappear; legs and antennæ, long and slender, and of the same green color; eyes and mandibles, prominent. In its habit it is predaceous, and lives on other insects, of which it destroys immense numbers, both in its larva and perfect state. The larva of this insect burrows in the ground, where it traps insect prey. In the perfect state it is found above ground along beaten paths in warm days, on the constant lookout for other insects. This species is not so common as some others, but wider diffused.

1½. *Cicindela generosa*, Dej. “New York Tiger Beetle.” Plate IV. fig. 2. Length, from five-eighths to three-quarters of an inch; color, dark bronze; a wide margin of white around the outer edges of the wing-covers, with three white marks running across them from the margin towards the middle, one of which is longest, very nearly reaching to the suture, and is bent, at nearly a right angle, backwards, and terminates in a round or recurved end; the antennæ and the legs are a dark green metallic color, and not so long and slender as in the immediately foregoing species. This is the largest species of *Cicindela* in the United States of which I have specimens, and perhaps the very largest. It is more frequently found in New York State, and in Northern Pennsylvania than in the southern districts of the State. Our common species, *C. vulgaris*, Say, resembles this species very much, only it is not quite so large. As their habits are all very similar, therefore, for all practical purposes, a figure of one is as good as that of another, for they cannot fail to impress the form of the insect upon the minds of those who once see them.

2nd. *Cicindela blanda*, Dej. "Missouri Tiger Beetle." Plate IV. fig. 3. Length, three-eighths of an inch; color, light brown, slightly metallic; outer margin of the wing-covers dull white, with two bent streaks of white running in from the margin towards the centre; underneath, a shiny metallic deep green; legs and antennæ, long and very delicate. Fig. 4 is the larva of a *Cicindela*, showing the general form, in order that they may be recognized by the amateur when they are seen. They are a yellowish or dusky grub, with powerful jaws, and a hump upon the back of the eighth segment, with a pair of hooks or spines bent forward upon it. It is by means of this instrument that this grub throws the earth up out of its burrow, which is a perpendicular hole, in which it secretes itself and watches for its prey. This species is very abundant in Missouri and other Western States; found also in Pennsylvania and elsewhere. The same in habits as the foregoing. In 1853 there were fifty-eight species of these insects catalogued and described under the genus *Cicindela*, as inhabiting the United States. The three species here exhibited will be sufficient to form an idea of what the insect is. They must, however, not be confounded by the superficial with the genus *Donacea*, to which they have some resemblance, and which are plant-feeders.

3rd. *Galerita Americana*, Fab. "Large Bombardier." Plate IV. fig. 5. Length, about seven-eighths of an inch; color of the thorax, a light or reddish brown; the head and under body, black; the wing-covers, black, with a blueish velvety tinge; antennæ, a darker brown than the thorax, especially the intermediate joints; legs and antennæ, long and formed for running. In the absence of a common name for this beetle, I have called it the "large bombardier," to distinguish it from the true bombardiers, which are smaller in size and belong to the genus *Brachynus*. When surprised, the true bombardiers are capable of making a gaseous explosion, whence their common name. They are all predaceous in their habits, and are, therefore, insect friends to us. There are four or five species of *Galerita* and over thirty species of *Brachynus* known to entomologists in the United States, and about fifty species belonging to genera intermediate between them. Partial to low, moist grounds.

4th. *Calosoma scrutator*, Fab. "Green Calosoma." Plate IV. fig. 6. Length, from an inch and a quarter to an inch and a half; wing-covers, a bright green color, finely lined lengthwise and with a narrow bright coppery margin; legs, steel blue; underneath streaked crosswise with green and brassy or coppery bands; head, dark metallic green or bronze; legs, long and amply fitted for running. This is a most beautiful and useful insect, and is widely diffused, although not so abundant as some other species. A smaller species, very similar to this one (*C. Willcoxii* Lec.), is very abundant in Maryland, and perhaps, also, in other Southern States. I have often found this insect, and also another species of nearly the same size, but of a uniform black color, with a narrow blue margin (*C. externum*, Say), mashed flat upon the ground; no doubt intentionally trodden upon by persons who mistakenly supposed it to be an insect enemy, for the insect is too active for this to occur so often accidentally.

5th. *Calosoma calidum*, Fab. or "Golden-spotted Calosoma." Plate IV. fig. 7. Length, about one inch; color, black above and beneath; three rows of bright brassy or coppery spots upon each wing-cover; thorax, short; legs, long and formed for running; antennæ, moderately long and slender. This is the most common species of this genus we have out of the thirteen native ones that constitute it. These insects are general favorites among European gardeners, by whom all their merits are thoroughly known. These are the insects to which allusion has been made as having been colonized in gardens to protect vegetation from the destructive insects which attack it both above and underground; and I have introduced them here in order to familiarize with their appearance those who may feel an interest in them.

Fig. 8 is the larva of the genus *Calosoma*. They are usually a yellowish or dirty-white grub with six legs; the head and thorax or first segment black, sometimes glossy black, and a black scale or shield on each segment, larger or smaller, according to the species. These scales do not quite cover the back, the naked flesh of the segments, surmounted by little concretions or warts, extending beyond. They live in the ground, and destroy the worms and grubs of other insects. They are said, also, to come above ground, and even to ascend trees, in company with the mature insect, in quest of the various caterpillars that infest them. I have found them under logs of wood and in stone-piles, but not very common. Like all darkling or ground-beetles, neither the larvæ nor the mature insects are often seen, except when surprised under a cover, and when they come abroad they quickly secrete themselves at the least approach of danger.

6th. *Carabus carinatus*, Dej., or "Keel Carabus." Plate IV. fig. 9. Length, from seven-eighths to one inch; color, dull black; wing-covers, finely lined with three rows of longish raised marks of unequal lengths on each, like telegraphic writing; antennæ, about half the length of the insect, and legs long and formed for running. Fig. 10, the larva of the genus *Carabus*. Length, one inch, more or less, according

to the species; color, dull or shining black; the segments lapping each other on the back like scales; legs, antennae and palpi, prominent; the terminal segment bicaudate, or ending with two lobes or points. We have some fifteen or twenty species of these insects in the United States, that have been already described, and on the Continent of Europe the number of species is more than three times that number. They also belong to the Carnivorous Beetles, and, from the fact of their being generally hid during the day under stones or in dark places, they have received the common name of "Darkling Beetles."

7th. Plate IV. fig. 11. *Chlaenius sericeus*, Forster. "Green Musk Beetle." Length, about five-eighths of an inch; color, a rich, lustrous dark green above, and dark brown below; legs, pale yellowish, or very light brown; antennae, yellow at the base, and brown intermediately and at the ends. These insects are tolerably abundant in low grounds and meadows, and are very pretty, but scamper off with the greatest alacrity when surprised.

8th. *Chlaenius nemoralis*, Say, or "Musk Beetle." Plate IV. fig. 12. Length, about half an inch; color of the thorax, green; the color of the wing-covers is a changeable velvety brown; legs and antennae, a light brown. Forty or fifty species of these are known to naturalists. They have a strong, pungent, and musky smell. They are seldom found abroad during daylight, but they, nevertheless, do good service under ground, or during the night, when they go abroad in search of prey.

9th. *Harpalus Pennsylvanicus*, DeG. *Harpalus faunus*, Say. Plate IV. figs. 14 and 15. Length, about half an inch; the color of fig. 14 is black, and that of fig. 15 a light brown; legs and antennae, a dirty white or whitish-brown; wing-covers, finely lined lengthwise. These are two examples of one of our most common "Ground Beetle," and are widely distributed throughout the country. There are about fifty species of the genus *Harpalus*, but there are at least four hundred species of allied genera between it and *Chlaenius*. A few of these are suspected of feeding on vegetation, as well as on animal food. I think, on the whole, we may regard them as our friends, until we can convict them of some overt act of infidelity.

10th. *Pangus caliginosus*, Fab. "Black Earth Beetle." Plate IV. fig. 13. Length, about one inch; color, uniformly dull or shining black; wing-covers, marked longitudinally with numerous raised lines. This is a very common insect, found in nearly all localities and nearly all seasons of the year. It is only excelled in numbers by figs. 14 and 15. Sometimes found crossing a path, but generally hid among grass or stones, or under wood or fences.

11th. *Dicalus dilatatus*, Say. "Dilated Earth Beetle." Plate IV. fig. 16. Length, three-quarters of an inch; color, shining black; body, thickened; wing-covers, with deep longitudinal raised lines; thorax, indented behind, and united evenly with the base of the wing-covers. About thirty species of these insects are known to inhabit the United States. They are common as far north as the State of Maine and as far south as Alabama, to my knowledge, having received them from both those States, as well as intermediate localities.

GRAPES IN THE MOUNTAINS OF NEW YORK.

BY WILLIAM A. WOODWARD, MORTONVILLE, N. Y.

MR. EDITOR:—I am a subscriber to the *Monthly*, and, as in a recent number you request each subscriber to consider himself a correspondent, *Ecce procurator!* Surrounded by mountains in latitude 41° 30 min. north, where the thermometer ranged, on the 13th of January, 1861, in different localities, at 20°, 24°, 29°, 33° and 36° below zero, I propose to indite an article on Grapes.

The wild varieties, including the barren and fruitful, are very numerous, some of them producing fine fruit and making delicious wine. On my farm, four hundred feet above the Hudson, they come up spontaneously. I have destroyed many hundred vines, and there are large numbers remaining. I am happy to say, too, that I have a fine vineyard of the cultivated varieties, which appear to be doing well in the open air. Vineyards are quite numerous about here, containing from one to twelve and fourteen acres. Until last season, they have paid large profits. The season of 1860 was a peculiar one in the highlands of the Hudson. The weather was unusually wet from the 20th of July till the close of the season; consequently, grapes hitherto free from rot, suffered much. Diana, Catawba, Concord, and To-Kalon were nearly destroyed by it. My Catawbas ripened on the 6th, and Isabellas on the 11th of October, much later than usual, and reversing the order of ripening. My last picking of Isabellas was on the 25th of October. A neighbor finished picking November 12th. Large quantities did not ripen at all. Many had their "teeth set on edge," and for the same reason that affected "our fathers." Some were discouraged, (though, I think, without sufficient cause,) having rooted up their vines or sold them at nominal prices to more confident cultivators. They forgot that "one swallow makes no summer." Heretofore this fruit

has liberally compensated the cultivator for the New York market, having access every evening by large and steamboat, which deliver the fruit picked in the afternoon in the city for sale the following morning. The distance is sixty miles. It does not appear that our severe winters destroy the native varieties, nor the descendants of pure native species. Those of foreign origin, or of more southern latitudes, require to be covered, and are yet to be tested. I am making yearly observations upon those I cultivate, and propose, at some future time, to give the public the benefit of my experience.

While on this head, let me suggest to Fruit and Vine-growers' Societies and to individual grape-growers, a mode of collecting a vast amount of the best kind of information for the benefit of each other, consisting of *facts*. These are what we need at the present time. Keep records, dates, and record facts, publish them and gather enough from others who do likewise to compensate for the trouble each one takes. Open an account—that is the mercantile phrase—with your own vines, record each year the growth, cultivation, the date of flowering, fruiting, ripening of fruit and wood of each variety, the weather, attendant circumstances, and every other fact that may strike the cultivator as interesting or worthy of note. It is not enough to state that a new variety ripens, as is the hackneyed phrase, five or fifteen days "earlier than the Isabella," which really means nothing at all. Find out what day they each ripen, and make it known. Let the public judge of the facts. Note the latitude, temperature, exposure, and especially the greatest degree of cold to which they are exposed in the open air. Note, also, the flavor and color of the fruit, size and shape of the leaf, general thriftiness and vigor of growth, as suggested by Mr. Ravenal, whose example is worthy of imitation. Much good will come of it.

Let the Fruit-Growers' Societies appoint intelligent and honorable men to classify all American varieties as soon as may be, and especially *condemn all unworthy of cultivation*. On my table lay a large number of catalogues, describing an infinitude of American grapes. One dealer offers many hundred varieties, a considerable number of which, I venture to say, never had an existence, while others were obsolete and worthless long ago. It is time to put an end to humbug in grape-growing. There is plenty that is good and worthy of all praise.

This country has taken a lead in this business for many years, and is celebrated for its fruit and for its pure, delicious wines, the several vintners having demands beyond their ability to supply. Orange County wine is as well known in many localities as Burgundy, and is more certain to be pure.

STUARTIA PENTAGYNIA.

BY THE EDITOR.

FREQUENTLY, when seeing the fine specimen of *Stuartia Virginica* (*S. malachodendron* of some authors) in full bloom at Bartram, we have heartily wished that this and its noble companion *S. pentagynia*, the only two American species could be got into cultivation, and we have frequently urged Messrs. Parsons, who possess the finest plant of the latter in the country, to go into its propagation, and are pleased to find from our advertising columns that they have done so.

Though much valued in Europe, it is yet scarcely known here, though a shrub of much beauty. It is found in the mountains of Tennessee and Virginia. Many have often looked with admiration on the fine specimen standing in the grounds of Parsons & Co., at Flushing, from which our drawing (fig. 1) is taken. Its branches commence about a foot from the ground, and form a round, compact tree, or shrub, ten feet in height, and about ten feet in diameter.

In August, when but few plants, comparatively, are in bloom, this bush or tree is uniformly loaded with large white flowers, $2\frac{1}{2}$ inches or more in diameter, saucer-shaped, with purple centre, and the edges of the petals crimped. A drawing of the blossom, reduced in size, is shown at fig. 2. It has a general resemblance to the flower of the Magnolia, beside which we know of no hardy tree or shrub whose flowers can compare with it in beauty.

When once known, it will be considered as indispensable as the Magnolia in every garden, where a few good things only are wanted. It will grow in any good soil, is perfectly hardy, and is suitable for any locality. In its native localities it reaches a height of fifteen feet. It is propagated by layers and offsets, and will, doubtless, soon be found in all extensive nurseries. Ranking in size between the trees and dwarf shrubs, the appropriate place of the *Stuartia* in the landscape will be somewhat near the dwelling, or among the main avenues and walks of the lawn. Its well-proportioned head, fine foliage, and beautiful bloom should secure it a prominent position. The other variety, *Stuartia Virginica*, does not bloom as freely as this, and, though quite hardy at Bartram, is somewhat tenderer than the one under notice.



Fig. 1.—STUARTIA PENTAGYNIA.



Fig. 2.—FLOWER OF THE STUARTIA, REDUCED IN SIZE.

THE DEW QUESTION AGAIN.

BY E. A. REHL, BOONVILLE, MO.

MR. MULLET (See February No.) thinks that the absence of fog and dew is not the cause of the success attained in growing the grape on Kelly's Island, but attributes it *all* "to the mode of pruning, allowing the vines more wood and leaf, giving the plants more space, the preparation and drainage of the soil." Now I shall not deny that these things have a share in contributing to the success, attained on Kelly's Island, but I do deny the position which the writer takes that the absence of fog and dew makes no difference one way or another; but that leaving more wood and leaf will remedy the rot and mildew.

Mr. Mullet says "a large number of vineyards around Cincinnati are comparatively as free from fogs on account of their high elevation as Kelly's Island, and yet they are subject to mildew." But I would ask, does the elevation of those vineyards prevent the dew? which I think is a great deal more injurious than fog. I think not.

He considers "that the distance of planting; the method of pruning; the preparation and drainage of the soil the real cause of the success attained on Kelly's Island." I can show the gentleman vines here in Missouri, that are planted nine feet each way, some on a wire trellis ten feet high, and others on stakes, and get no summer pruning, yet they rot as badly as those planted closer, and are summer pruned.

Mr. Mullet says "for a want of sufficient leaves to evaporate the excess of sap, the tender cells of the young berries become ruptured, thus producing the mildew, which is entirely avoided on Kelly's Island by the especial allowance of more wood and leaf."

Now if the excess of sap in the vine produces rupture in the young berry and thus causes mildew, Why is it that sulphur prevents the mildew, and even cures it after it has made some progress? But the mildew is not confined to the berry, but attacks the vine also; is that "ruptured" also? But let us look into this rupture theory a little closer, I have always been of the opinion that the sap which the roots supplied to the plant had to be prepared by the leaves before it could be fit for the formation of wood or fruit, but from what Mr. Mullet says I must be wrong, and the sap goes into the fruit without ever having gone through any preparation by the leaves; if that is so pray tell us what are the leaves for?

And if this rupture is avoided on Kelly's Island by leaving more wood and leaf, why is it that in other places the grapes do rot although they are not summer pruned and many not at all, I have seen that the case in hundreds of instances, and I could cite some that I saw not ten miles from Editor's

office, they were mostly Isabellas, and although they had no summer pruning whatever, they did not ripen a berry.

Mr. Mullet says that the mildew scarcely ever attacks vines until after the fourth year, (fourth crop I suppose.) That may be the case in Ohio, but it is not so here for I have never found any difference between old and young vines, and I very well remember some Catawbas that fruited in the nursery before they were taken out of the beds where they had been grown from cuttings, had received no pruning but did not ripen a sound berry.

Mr. Mullet goes on and says "that he had proof sufficient to convince him of the truth of his theory in 1858. He visited a vineyard of about six acres, the crop of which had been entirely destroyed by mildew, with the exception of a few vines that had run up some cherry trees, these had a fair crop; and one row which had all the roots cut off on one side of the row, for the purpose of making a drain for a cellar and that row had a full crop of well matured grapes. The owner had root-pruned that row, hence the success." Now I think that those vines that had run up the cherry trees were protected from the dew by the foliage of the trees, and owed their preservation as much to that, as to the fact of their not having been pruned, and the row along the drain no doubt owed its success as much to the thorough drainage thus afforded as to the root-pruning, which gets more credit than I think it is entitled to.

Now I do not advance the position that close pruning is beneficial, on the contrary I agree with Mr. Mullet when he says the vine should receive less summer and winter pruning than it is generally subjected to, and be allowed more space; but I cannot go so far as to say that it is a sovereign remedy for rot and mildew, and that dew has no influence in producing the disease, for if such were the case then a vine not pruned but left to itself would not be affected, but such is not the case.

And now, Mr. Editor, as you ask for additional observations confirmatory or otherwise of the views you express in your note to the article referred to, allow me to say that my observations do not confirm all that you say, for instance you say that "an over-dry or suddenly-dried atmosphere is the most common cause of mildew and rot in grapes, causing a greater evaporation than the plant can healthily supply," now this may all be very fine in theory but it is not supported by the facts, for it is a well known fact that it is in dry seasons that we have good crops, and in wet seasons the grapes invariably mildew and rot and no crop is obtained. I would also remind you that vines grown in a cold graper

are protected from the direct rays of the sun in daytime, and from the dew at night.

It is my opinion that mildew and rot are caused by insufficient drainage and the too great and sudden changes of temperature in daytime, the sun shines on the vines in an open field with nothing to break the force of the rays, the thermometer often rising over 100 deg. in the shade, and at night the dew falls on the leaves and chills them, thus producing disease. We should remember that the wild vine is protected from these extremes by the foliage of the forest trees, which break the hot rays of the sun in daytime, and at night they protect the vine from dew, while the more *civilized* and feebler vines stand in open fields, entirely without this protection Dame Nature supplies them in their native state.

I should like to say more, but this article is already too long therefore I shall close for the present.

[Very interesting observations. If other correspondents would send us notes of their experience; we have no doubt a few links wanting in the chain of evidence might be supplied, and much that now seems conflicting be reconciled and joined together. —ED.]

HORTICULTURE IN EASTERN NEW YORK.

BY W. TOMPKINS, GERMANTOWN, NEW YORK.

As it is desirable to compare notes as to the success of various fruits in different parts of our great country, I send you a few rough notes about the crops of last season, (1860,) hoping that it will be interesting to some or your readers. From the 10th of May to the middle of August we had but little rain, nothing but light showers, and they were few and far between; and I think that during that period there was nothing that might be called a copious rain, and the want of it was so great as seriously to affect the crop of corn, hay, and oats. From the 20th of August to the first of December we had a copious rain,—almost every week, indeed, we found it almost impossible to dig the potatoes, and they nearly all rotted in consequence. We expected that the grapes would all rot or fail to ripen before hard frost, but was agreeably disappointed, as the sequel will show. We had a number of hot days in June, July, and August, but the average temperature was lower than usual in this section. The popular theory of fruit-growers hereabouts has been that a very dry season is unfavorable to the production and healthful development of fruit; such a season would cause it to grow poorly, rusty, and the most of it to drop prematurely. Now this theory appears to be decidedly wrong, as the result has, I think, satisfactorily proven. A more abundant crop of Apples, Cherries, Pears, Grapes, Plums, Currants, Gooseberries and Straw-

berries, never was grown in Eastern New York. Even those varieties of the Apple and Pear, which in former years were seldom seen in perfection, were this season produced in all their pristine beauty and excellence. Such magnificent specimens of the Early Harvest, Newtown Pippin, Swaar, Sweet Harvest, and other sorts, it seldom has been my good fortune to grow or eat. Did the dry weather cause the fruit to drop? No; never since my earliest recollection have I seen apple trees so heavily laden. Indeed, many trees were literally crushed with the weight of the fruit, which, notwithstanding, grew of full size and flavor. From some unknown cause, insects injurious to fruit, were less numerous and troublesome last season than any before, which probably accounts for the fruit growing so large, fine, and not dropping prematurely. Some persons attribute this to the untimely frost of the 10th of June, 1859, others to the 17 years locust, (cicada,) which were very numerous in this part of the state. Indeed, I heard some old fruit-growers predict previous to the coming of the locust, that after they come we should have a series of fruitful seasons, which it is to be hoped may prove true. But some one will say that the fall rain is what caused the Apples to grow so large and fine, and that in the fore part of the season they could better do without rain than they could in the latter. Now this theory seems very plausible, and I myself, should be disposed to credit it were it not a fact to me well known, that the early apples were uncommonly large, excellent, and their skin as smooth as polished wax, partly hidden with bloom, and apples were all ripe and gone before the rainy season began. This I think is pretty conclusive evidence that the apple can perfect itself and attain full size even in a dry season, providing that other things are auspicious. It is a fact well known, that cherries are larger and of superior quality in a dry season than they are in a wet season.

Notwithstanding the immense quantity of apples shipped to the New York market, from this and other places daily, from the middle of July to the first of December, they almost invariably, when put up in good order, sold for remunerating prices. The early apples especially, sold quickly, and the most of them at a high price.

No early apple that we have in this section is so reliable and profitable as the Red Astrachan; the tree is very hardy, a vigorous upright grower, and the foliage of a deep rich green, surpassing that of all other varieties of the apple. It comes into bearing early, and it is not uncommon to get well developed specimens the first year that the trees are planted. It is a moderate bearer, but when well treated will bear annually, and the fruit always grows fair and

of good size. When fully ripe it is one of the most beautiful and tempting apples in America. The color is a brilliant deep crimson, with a thick bloom like a well ripened plum, and is always sure to attract the attention of visitors sooner than any other apple in the orchard. This variety has the peculiar habit of ripening its fruit in succession, and good ripe apples can be got from the tree during a period of from four to six weeks after the first ripe ones are picked; and in order to have them of uniform ripeness to send to market, the trees should be overlooked, and the ripest taken therefrom every three or four days. This seems to be a good deal of trouble, yet it will surely pay, as the writer can assure the reader from experience, having sent a great many to market last season, which were sold for as much per peach basket as other good apples brought per barrel. Although this apple has been highly recommended and disseminated during the last fifteen years, by our most eminent Pomologists, yet it is not plenty in market, and in many sections of the country almost unknown.

It appears to have originated in Sweden, and to have been introduced into England in 1816, and from there to America. It certainly is the greatest acquisition we yet have received from Europe in the apple department. Can you, Mr. Editor, inform me if it is as highly esteemed and as excellent in Europe as it is in this country? [It is in Germany, less so in other parts.—Ed.]

In my next communication I will send you some notes about the Grape Crop of 1860.

PROGRESS OF HORTICULTURE IN EGYPT.

BY J. M. SMITH, GREENVILLE, ILL.

MR. EDITOR, I have for some time intended giving you a short historical sketch of the progress of Horticulture in Southern Illinois,—familiarily called 'Egypt,' particularly the pomological department, but being aware of its occupying considerable space, and also of my prolixity in writing, I have heretofore refrained from so doing. Nevertheless, the subject is a good one, and whether it will admit of publication or not, I will endeavor to give some facts thereupon.

About the year 1683,—I believe that the very date, settlements were made by the French, at Kaskaskia, Prairie du Rocher, and Cahokia, near the east bank of the Mississippi river, in the present counties of Randolph and St. Clair, and about the same time a settlement was formed by the same kind of people at Vincennes Indiana, and extending into Illinois. At all these places the French planted seeds of various plants, particularly of Pears and Peaches; and even at this writing there are some pear trees at some of the above named places, which are at least one

hundred years old; and there may be some among them which were planted soon after the first settlement. One tree in particular, in this State, near Vincennes, I was informed, some ten years ago, was over one hundred years old, and had borne in one season near *one hundred and fifty bushels* of pears, of "fair" quality. I do not vouch for the correctness of this statement, but my informer is a man of veracity. There is another pear tree of enormous size, and full as great age, at Cahokia; and the pears of which it bears a very large crop, are of pretty fair quality. I saw, myself, at Prairie du Rocher, one year ago, some cherry trees, (common Morello,) which were so old that the descendants of the French settlers knew nothing of the time of their being planted. They were *very* old, and very large for the kind of trees.

About the year 1790, some Americans settled between the French villages of Cahokia and Kaskaskia, in what is now Monroe county, and were probably the first who introduced the apples into the Territory, (then a part of the State of Virginia.) Most of the orchards planted at that date, were seedlings; but one gentleman—a Gen. Whiteside, I think, grafted a number of seedling apple trees with the best varieties he could obtain, and from those trees some very good apples have been somewhat disseminated through the west; and some of these same old trees I am informed are yet standing, or at least were a few years since.

Peach trees from the seed have been in cultivation, or I should perhaps say, have been allowed to plant themselves in fence corners, &c., and produce peaches, from the earliest settlement; and some superior varieties have been derived from those chance seedlings. Our climate, and especially the region bordering upon the eastern shore of the Mississippi river, appears so well adapted to the growth of the peach, that many really good varieties appear almost to reproduce themselves from seed; and until very lately—say twenty years, this constituted about the only method of propagating varieties.

The first *Nursery* for the growth and sale of fruit trees, as far as I have been able to ascertain, was commenced in this county, (Bond,) in the year 1818, by my father, John Smith. He planted seeds in the fall of that year, and I believe brought some apple seedlings and scions from Kentucky, which he grafted that winter. He obtained the stock for his nursery of one George Heikes, an emigrant from Pennsylvania to Kentucky; and the varieties of apples grown and planted for many years were some twenty of the older Pennsylvania apples. Among these stand prominent the Pennock—here called "Big Romanite," Rambo, Newtown Pippin, Prior's Red, Old Winter Pearmain, (called here "Hoops,")

Pennsylvania Red Streak, Rawles' Janet, Romanite Milam, Limber Twig, &c., &c. Of Pears, the old Winter Bell, and the "Philadelphia Butter" Pear; the latter probably the Virgalieu, were the varieties mostly propagated; but the blight caused probably by our strong virgin soil, stopped the propagation of pears many years ago. But by the way, pears are now being planted with success, upon the very ground (not the soil) where formerly they failed.

Of Cherries, the common Morello, and the Kentish, or English Pie Cherry, as it is called here, have been planted upon nearly every farm in this part of the State, from its earliest settlement, and flourish without attention. In fact, most of our inhabitants consider the cultivation of cherries and peaches entirely unnecessary.

Since the year 1818, nurseries have sprung up in nearly every county in Southern Illinois, and great advancements have been made, especially within the last twenty-five years. Orchards, the trees of which were propagated by my father, are scattered all over the State; and some of them now about forty years old, still bear heavy crops of fine fruit. This county for a long time boasted the largest orchard in the State. That within which I first "breathed the breath of life," contained about fifteen hundred apple trees, besides other fruits, at one time near two thousands bearing fruit trees. But that orchard is now in a state of decay—having passed into the hands of a stock grower. There is one yet in this county, owned by M. S. Wait, Esq., containing about eighteen hundred apple trees in vigorous bearing. Many other large orchards are scattered through the country producing large crops of superior fruit.

Apples constitute a considerable portion of the revenue of Southern Illinois. Many thousand bushels find a market through the medium of our great nation's main artery, the Mississippi, and for the last few years bringing on an average at least fifty cents per bushel. At least fifty thousand bushels have been sold the past season, in this county alone, at from forty to seventy-five cents per bushel, and nowhere are better apples produced than in "Egypt."

Peaches have received a great deal of attention during the last few years. Not so much dependance is placed upon seedling fruit as formerly. Nurseries devoted to the propagation of the peach upon a large scale, have recently been established, and many thousand trees are annually planted. Peaches seldom fail here entirely; and now that we can have "fresh peaches all the year round," hundreds are planting fine budded varieties, who formerly would not let a self-planted tree remain in the fence corner.

Pears are being planted somewhat extensively,

and particularly in the villages. Here you will find no garden of any pretensions without the Dwarf Pear Trees—producing fine specimens of that prince of fruits.

Grape-growing is now becoming very popular in many parts of the State. At Highland, twenty miles from this place, the Swiss have been very successful in the cultivation of the grape. The Catawba and Norton's Virginia, are the varieties mostly planted. Many acres of vineyards are now producing the "blood of Bacchus" around that village in great abundance. At many other points, more or less, grape-vines have been planted, and are doing well.

Even since the introduction of good fruit within the State, the ball has continued to roll, and we eagerly look forward to the time when "Egypt" shall be as noted for its fruit as for its corn.

As my article has grown longer than I intended, I reserve the continuation for another time, promising, if the present is received, to furnish the *Monthly* with some matter of more value than the present.

ROSE PRUNING.

BY CHARLES MILLER.

THE season is now approaching when this important operation should be performed,—I therefore submit a few general remarks on the subject in question. It is presumed that the practical ideas here presented will be of such assistance to the amateur rose grower, as to prevent the all but fatal operations generally performed under the above title. I will not trespass on your space to particularize the treatment necessary for the several families. Their growth, to which I refer, will be readily comprehended by the terms, strong or short growing. Roses are generally planted when young, and during the first season the knife should be sparingly used, but after all chance of frost is past, the branches should be cut back to four or five eyes, having previously cut all growth that interferes with the shape of the plants, which should be that of a basin or expanded inverted umbrella, which insures a free circulation of air between the branches, and as a matter of course, the consequent certainty of bloom.

During the following autumn, any shoots which started in the centre of the plants or cross branches, may be renewed; but the shortening of the main shoots should be left till spring, being especially careful to prune to an outer bud.

Erect-growing kinds, such as Queen Victoria, Mrs. Elliott, Geant des Batailles, and the like, may be much improved in shape by tying the branches in a more outward direction when young. In prun-

ing the majority of the Hybrid Perpetuals, four or five eyes should only be left; but such as Louis Bonaparte, Pius IX., &c., half the length of the shoots, only should be cut away—any thing like severe pruning, on such subjects, being more productive of abundant wood and scanty bloom. Moss, Provence, and Bourbons, can scarcely be pruned to hard. The Persian Yellow and Austrian Briars, too slight, as these varieties bloom on wood one year old. Summer pruning is often desirable, and frequently saves much trouble; this may be effected to some extent by cutting the blooms for ornament, or when decaying with long footstalks. The Hybrid Perpetuals will, by reducing their branches to one half their length, in July—be certain to give bloom in autumn, a result much desired. Some of the Hybrid Perpetuals make handsome beds on the lawn. The following is especially adapted for the purpose, owing to their short compact habit, and sturdy growth; and when hedged down or securely fastened to the ground, and due attention paid to their summer pruning, (which is important,) a succession of bloom may be had from June to September.

Autumnal flowering varieties, Auguste Mie, Baronne Hallez, Dr. Arnal, Baronne Prevost, Comte de Paris, Comte de Eugene Sue, Jules Margottin, Wm. Jesse, Geant des Batailles, Wm. Griffith, Paul Duprez, Queen Victoria, Madame Laffay, Prince Leon, Rosine Margottin, Madame Rivers, Madame Domage, Duchess of Sutherland, Soliel d'Austerlitz.

To those that do not possess a bed of Roses, I would advise them to repair the omission at once, for gathering roses in early morning, with the dew still on their fragrant petals, is one of the greatest pleasures of life.

LANDSCAPE-GARDENING.

BY GEORGE E. WOODWARD, NEW YORK.

NO. 4.

THE great advances made in the art of Landscape Gardening during the last ten or even twenty years, has created a demand for more general information on the subject. Those works that have issued from the English press, do not supply the directions wholly applicable to this country. The differences of associations, habits, climate, &c., &c., requiring a treatment of another character. If we were to find fault with nearly all the publications on Landscape Gardening, it would be that they treat that subject in too general a manner. We have essays on Taste, Color, Trees, &c., &c., but nothing on practical operations, nothing that details the necessary proceedings required to carry out a plan of improvement. One is obliged to ransack a scientific library, study drain-

age, ten or fifteen authors on road making; several on engineering and architecture, bridge construction, lines, cement and mortars, soils, manners, geography, chemistry, botany; then drawing, painting, surveying, taste, &c., &c. By the time all these have been waded through, the indefatigable amateur will have come to the conclusion, that the more he learns, the less he thinks he knows, or is beginning to get an idea of the immense amount of information yet to be acquired; advancing from that stage of ignorance in which he did not know that he knew nothing.

The labor of hunting up all these different sources of information, is scarcely equalled by the amount of study necessary to acquire or to make a practical use of them; and with many it is considered the best to do a thing expensively wrong, than to either obtain or pay for that knowledge by which it can be done economically right.

Landscape-gardening, seriously considered, is an art that occupies no mean position, drawing largely on nearly all the cultivated arts and sciences, and made up of most of their leading excellencies. It cannot but be admitted, that to qualify one for its pursuit, must require a persevering course of study, both of a theoretical and practical nature,—its pursuit being of a constructive and tasteful character, have led many to suppose that it, in common with other constructive arts, is instinctively comprehended. There are more of us that like to admit that we cannot plan and superintend the erection of a house—lay out and construct a common or ornamental road, or design any system of improvement. Yet the practice of such pursuits belong to professions requiring great skill and extensive learning. The professions of the architect and civil engineer are not natural gifts, nor can they be acquired by any medium amount of application. What is true of them is equally true of Landscape-gardening, which in its higher developments, embracing a far more extensive range of study, and thoroughly unites the practical and artistic.

Landscape-gardening, considered in its popular sense, is supposed to be of easy attainment, and to comprise a general knowledge of the manner of setting out trees and shrubbery; constructing roads, and the ability to graduate the earth's surface, generally speaking, to a level. There may be a simplicity in such apparently plain operations; but if we judge by results, what must be our opinions? simply these: there are few, very few who have any idea of what is necessary to be done in planting or transplanting a tree. Setting out trees properly, requires a knowledge that must be obtained by both study and practice; and we will venture to say, that out of the first hundred men you meet anywhere,

not one of them can do it right. It is quite a mistaken notion to suppose you know how to set out a tree; the fact is, unless you have made it a study, you will fail, and the failure will cost you the price of the tree,—the value of your own time, and loss of time between the dying of one tree and replacing it with another, besides some considerable annoyance.

The construction of roads is the next operation that is thought to be easily mastered; and yet not one single author on Landscape-gardening in Europe, or this country, has ventured to give any intelligible instructions on this subject. Not one of them ventures even an opinion as to the manner of laying out a curve, or what variety of curve possesses in the highest degree, a combination of the practical and beautiful. The merest allusion to a few stakes, whose positions are to be guessed at, until they look right, constitutes all the information we have to guide us in laying out an ornamental road.

The manner of constructing such roads, is by no means definitely stated. Certain authors have recommended plans of their own, but from them we can produce no scientific reasoning, that shall insure smoothness, hardness and permanence, and nothing by which true economy is united with excellence, or in other words, the manner of constructing a first-class roadway at the minimum of expenditure. It seems a very absurd statement to make, that anybody does not know how to lay out and build a road. This most difficult branch of civil engineering, every body understands, until they attempt to illustrate their knowledge, and an absolute failure has but little effect on their wisdom. If you want a very unsatisfactory as well as a very expensive road, build it yourself,—do the same thing with your house. Paint your own pictures, try your own lawsuits, doctor yourself, make your own clothes, mend your own boots. If you have an unlimited length of purse, vanity enough to rank your taste and ability as supreme,—the satisfaction of saying *I did it*, may be some compensation. But such experience will illustrate one fact, there are no successes in this world of permanent value but what require a lifetime of study and devotion to achieve them, and the practice of the cultivated art of Landscape adornment is no exception to it.

If one's ambition does not carry him above the pleasure of owning and managing a second or third-rate place, then it would seem unnecessary to thoroughly investigate the principles of the art; but if a tasteful expression of Landscape beauty is desired, and the most rigid economy be an absolute condition, then close study is indispensable. The work of a finished expert, in any art or pursuit, is more

beautiful and economical than the bungling performance of a new hand.

[Mr. W's articles invite criticism; but we can pardon minor weaknesses for the general facts they teach, that mere "architecture" or mere "cultivation" is not Landscape-gardening.]

THE GRAPE.

BY A. S. MILLER, ALTON, ILLINOIS.

As spring is approaching, it would not be out of the way for us to say a few things with reference to the vine, its culture, varieties, &c.

For the West the Concord stands pre-eminent as a table-grape, on account of its hardness and freedom from mildew, being an abundant bearer also.

Catawba still remains the finest light grape, although hard to acclimate; yet when trained upon a trellis and pruned in winter and summer with moderation, will succeed tolerably well. In Southern Illinois the Delaware will certainly become the leading wine-grape, being superior to any other grape of that class; it is a profuse bearer and very hardy.

Our opinion is that the Diana will never become popular in this region, it being but little better than the Catawba, if it is any, which, verily, we doubt. The vine is scarcely hardy, as the leaves are subject to mildew some. Of course, the wood cannot ripen well. The fruit is smaller than the last-named variety, and the vine bears but moderately.

The Clinton is excellent, an account of its perfect hardness being more so than our native varieties would be under the same treatment, but small and very tart.

The Bland we have not fully tested. The Rebecca mildews some. The Cassady summer-burns so sadly as to be impossible to grow in this region. The Clara and Herbemont are liable to winter-kill.

Now, for the culture of the grape, what the soil should be every one knows; and as to situation, any point will do except extreme north. We do not advocate the murderous pruning that some do, nor do we side with the let-alone plan, but would endeavor to go "*in media res*" and prescribe a moderate system of pruning. The vines should be planted eight feet apart, quincunx style, and trained upon a trellis. For plans of the same, see "Barry's Fruit-Garden," page 248. This plan will do until we become convinced that others are superior.

The horizontal trellis is, in our estimation, the best, although we would not recommend it, on account of some objections. The arduous task of pruning the vine on this trellis; the constant watchfulness required in order to keep the vines from running rampant are every thing. But the points in favor of it are: 1st. The roots of the vines are

in a cooler soil and atmosphere. That always should be kept loose and friable by the horse-hoe. The soil thus treated does not become hard and dry. While the fruit is protected from the scorching influence of "Sol," by being drawn through the meshes of the trellis, hang suspended under the leaves.

2nd. The birds are more easily watched,—these being our greatest pests at the ripening of our grapes. The vines can be rid of insects more easily with tobacco fumes, on account of their being over-head.

I will close by giving a slight description of this plan. Set posts in the rows twenty feet apart, leaving eight feet above ground and two and a half feet under. Upon these nail slats twenty inches apart. Then smaller slats or rods of iron should cross these at right-angles. The whole should be firmly nailed together, to prevent their breaking under the weight of fruit and leaves. Permit the vines to have more space as they grow older, by removing every alternate vine. My word for it, they will go ahead and prosper, if other difficulties do not arise than we usually have to contend with.

HOUSE CULTURE OF CAMELLIAS.

BY MISS E.

FOR successful house culture of Camellias,—first secure the proper kind of earth,—(Mr. Editor can best tell what that is). Then secure sufficient drainage, and when the plants are brought into the house, put them into a cool room, and keep the temperature about 45° or 50°. When the buds are well formed, keep the earth wet. The saucers of the pots should never be without moisture. I keep mine *always* with water in them; as the buds open, they may be brought into the parlor, and then, if kept wet enough, they will bloom finely. When the bloom is over, less water is necessary. I have generally a fine show of Camellias in February and March, in the latitude of Philadelphia.

[Turfy, spongy, fibry surface soil from old woods or bogs, suits the Camellia. We can testify to the success of our correspondents treatment.—Ed.]

THE GREEN ROSE.

BY R. B.

I pray, Mr. Editor, do not let the French take from us the credit of the Green Rose; you must say "it was first introduced to the world," by a Baltimore florist about seventeen years ago, at \$2.50 per plant, and sent in 1852 to England and France, by a Philadelphia florist. So you see Messrs. Pere and Clement *did not* first introduce it,—your memory is good.

SORTS OF GRAPES TO GROW FOR A VINERY.

BY A GRAPE-GROWER.

YOUR article in the January number, page 30, on the best foreign grapes to grow is really valuable, they are the essence of the grape. You have never told your readers that you brought to this country the Black Tripoli grape from the original plant at Welbeck; I consider it in every way superior to Black Hamburg. What of the Golden Hamburg? I see it somewhere represented by Decan's Superb; they are entirely distinct. Is this another mixture like Black Barbarosa and Prince Albert, the latter not worth a fraction? We (the nurserymen I should say,) have too many sorts and far too many names.

[Glad to receive an endorsement from so respectable a source.

Knowing that the Black Tripoli of American collections was spurious, the writer took pains to get cuttings from the original vine, through the kindness of Mr. Tillery, the Duke of Portland's gardener, and handed them to our friend some years ago. It is a pleasure to hear that it proves so superior with him.—Ed.]

BEN DAVIS AND NEW YORK PIPPIN AGAIN.

BY CHARLES DOWNING, NEWBURGH, N. Y.

IN the February number of the *Gardener's Monthly*, you give it as your opinion that Ben Davis and New York Pippin are identical, and copy the two descriptions as my own to show their similarity; but you overlooked that the outline and description of Ben Davis were from Mr. Downer (not having seen the fruit myself), and although the descriptions are somewhat similar, yet they may be different varieties for any proof that you have given to the contrary. It is often the case among such a vast number of sorts, that two similar descriptions may apply to one or two distinct kinds, because soil and locality in different sections change the character of fruits so much in form and appearance that it is often very difficult to decide positively their true names. I do not say that Ben Davis and New York Pippin are two distinct sorts, neither have we the proof as yet that they are alike. The Ohio Pomological Society at their January meeting decided (I quote from memory) them to be identical, yet it is best to wait a little longer before giving a final decision.

You remark that all are liable to err, myself not excepted,—strange, passing, were it not so, among such a multitude of varieties and variations.

[Mr. Downing's note reached us after our last issue had gone to press.—Ed.]

OFFICIAL REPORT OF THE AMERICAN POMOLOGICAL SOCIETY.

BY COL. WALTER L. STEELE, ROCKINGHAM, N. C.

MR. EDITOR, I notice that several gentleman who participated in the discussions at the late meeting of the American Pomological Society, have recently corrected, through the *Gardener's Monthly*, the erroneous reports of their remarks, as published in your periodical. I ask the liberty of correcting some errors in the official report recently published. (1)

On page 52 I am reported as having said that the *Lumber Twig Apple* "will grow at a level of thirty degrees above tide-water." I did not say so. I said it did well north of the parallel 35, if at an elevation of several hundred feet above tide-water. Does any body know how many yards it requires to make thirty degrees of elevation?

On page 53 it is reported that I located the nativity of a certain apple in the county of *Stansill*. I have often since the proceedings were published, been asked in what part of the State this county was situated; and have not been able to give my friends a satisfactory answer. There is no such county known to the laws of North Carolina, and as I pride myself somewhat on a knowledge of the geography of the State, I feel a little mortified at the ignorance which I am made to display.

This apple, (a capital one too,) originated in Richmond County, N. C.; had attention first drawn to its merits by Dr. P. W. Stansill, and by me, has been given his name, and that was what I said.

On page 94 I am made to indorse the character of the *Lodge Pear*. I never saw but one specimen of the fruit in my life, and, hence, I am sure, I did not speak of its qualities at all.

And now a few words in regard to the character of Northern winter apples, after being transferred to the South. I make these remarks in response to an inquiry from my old acquaintance, Mr. Langdon, of Tennessee. Mr L's experience agrees with my own, and I feel sure, with that of nearly every intelligent cultivator in the Southern States. At my first planting of fruit trees, having no experience, I set out the *Yellow Bellflower*, *Roxbury Russet*, *Newark Pippin*, &c., which all matured by the first of November. Not one proved a winter fruit. I dug up the whole of them and threw them over the fence. No apple which keeps in New York throughout the winter, will last longer in this climate than the middle of November, except now and then a single specimen, our spring coming too early for them. I have eaten *Bloodgood Pear* in this village, on the 20th of June; and the same year, at the house of Jonathap C. Baldwin, of Chester County, Pa., the same variety the 18th of August.

[1. The corrections heretofore made, have been

of our own report, which, being the fullest ever published, risked more errors. Mr. Steele's note shows that even the brief official abstract published by the Society is not exempt from errors; and that it is dangerous for any journal to announce prematurely, that its report is "the most accurate."—Ed.]

GAS TAR AND HOT WATER FOR PEACH TREES.

BY R., BEVERLY, N. J.

LAST spring I tried the plan recommended by you as a preventive to the borer in the peach trees, namely, by applying coal tar to the collars of the trees. Previous to doing so, I examined them carefully—found only two worms, which I destroyed, and then tarred them about three inches below and three above ground. Within a week the leaves of several began to turn yellow, curl and drop off, and whole twigs dry up, particularly on the *Morris' Whites*, *Troth's Early*, *Old Mixon Free*, the first suffering most of all. In order to prevent the total loss of the trees, I then resorted to a plan much used in this neighborhood, and which most persons might think would ensure their destruction, but which completely restored mine. It is simply to pour about half a gallon of boiling water around the collar of every tree injured. This, if done two or three times a year, will effectually destroy borers without wounding the trees, by cutting into the roots to follow them. If at any time the leaves turn yellow, or show signs of disease, the same treatment will perfectly restore them, and bring out young healthy foliage within a week or ten days, even though the tree may have been like the patient of Dr. James, of *Cannabis indica* notoriety "at death's door."

[In 1850, '51, and '52, we applied Gas Tar to apples, peaches, and dwarf pears, without any injury; but the trees were healthy. So much has been said of the risk by others, that in latter years we have recommended it only with caution, as our pages will show. We have heard others speak well of hot water.—Ed.]

THE ALLEN RASPBERRY.

BY A. LOYD, LAFAYETTE, IND.

HAVING recently noticed commendatory articles upon this fruit, we cannot refrain from giving our experience, after giving it a three years trial. We obtained one hundred plants directly from Mr. Allen, and from the ten thousand plants which have sprung from that hundred, there has never been a single quart of berries gathered.

Others in this vicinity have also tried them, with generous cultivation, in various soils and exposure, all with the same result, in this region.

The Gardener's Monthly.

PHILADELPHIA, APRIL 1, 1861.

✍ All Communications for the Editor should be addressed, "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

✍ Persons sending two new Subscribers for 1861 in addition to their own, with \$3.00 can receive a copy of our First Volume, (1859) free. All persons who have paid their subscriptions for 1861 by sending two new Subscribers and \$2.00 can receive a copy of the same.

✍ Our Subscription list for Rathvon's Entomological Essay is fast filling up, and as we have only intended publishing a limited number, we would desire all those who may wish to have the work, to send their name and address as early as possible.

SPECIAL NOTICE TO ADVERTISERS.

WE receive advertisements up to the 20th of the month; but as the heavy amount of advertising we receive on that date renders it a great effort on the part of our printer to get the month's issue into the hands of subscribers as punctually on the 1st as we desire, we should be obliged by receiving advertisements as early IN THE MONTH AS PRACTICABLE.

GARDENING IS NOT AGRICULTURE.

WHILE reading a report of a meeting of the Fruit-Growers' Society of Western New York, a year or so ago, we were forcibly struck with a remark of Mr. Vick, to the effect, that, judging by what we hear at horticultural meetings, and read in horticultural journals, one would suppose that all the evils that attend pomological practices in every part of the world, were concentrated and poured out over our devoted land; and yet it is a fact beyond controversy, that we have the finest climate and soil for fruit-culture, and perhaps the fewest and weakest enemies to contend with than any other country under the sun possesses.

The fact is, with all our boasted activity, we are in fruit-culture a lazy people. We hate to do any thing for our trees; in fact, we do comparatively little. "It won't pay." We stick in trees to-day, and to-morrow we look for the fruit. We have not learned to labor, and have not learned to wait.

In the mechanic arts we have harnessed the lightning, and made steam our bond servant,—and fresh from our victory, we enter our garden plot, intent on similar conquests in the more immediate domain of nature. But she will be victor here. We must bend to her times and her seasons. Conditions of vegetable growth must be studied, and natural laws obeyed, and it is only after the sweat of

our brows has watered our labors, that the sweet fruits thereof will spring up to our hand.

We read of the fine and luscious fruits of Europe, but we never think of the immense amount of labor and skill spent on their production, nor dream of the hundreds of enemies that have to be overcome before the well ripened fruit rewards its possessor. We allude not merely to the colder and more inhospitable countries of the north, but include even the celebrated sunny climes of Italy and the south, the inhabitants of which we are accustomed to consider as idle, as it is well possible to be. But if any class is lazy there, it is not the one to which the Horticulturist belongs. The Italian gardener is a model of persevering industry. With but a tithe of the science which nations, blest with a free press and cheap literature possess, he is, nevertheless, in many respects, the equal of men from the wisest of the others, in sound practical knowledge of the gardening art, derived entirely from steady and laborious experience. Even in England and other portions of Britania's home dominions, the amount of worry, care, and toil, and trouble to bring fruit to perfection, is astounding to one uninitiated in the mysteries of the art, when they become in time revealed to him. Not only does the soil and climate oppose him at the outset, but he has a multitude of outside enemies to contend with. He has, in the first place, to surround his orchard of choice fruits with a high wall, to ward off the predations of those to whom hunger and want inspire no law. Then wire worms, and the grubs of cockchafer and bugs attack the roots,—slugs, snails, and myriads of "creeping things" devour the foliage before it is scarcely above ground. Getting larger, red spider, aphides, scale, "American blight," and Loudon only knows what not, attack the top. Scalds, blisters, scales, cankers, mildews, and every evil named in the encyclopedias, fatten on the shoots and leaves. Escaping all these, bullfinches, "tom tits," sparrows, and a host of feathered thieves, eat the buds before they burst; what few are left to flower, late frosts destroy, all but a very few which bear fruit; of these few, the thrushes, blackbirds, "sweet robin red breast," and similar marauders get the best part; even after powder and shot, at an awful expense, have made many of them pay the death penalty, and so many come to the funeral, that the force seems in nowise diminished. After all this, should a few still be left—hornets, wasps, ants, and the "servant girls in the house," (English gardener's worst plagues,) get the best of them, until by the time the Lord of the Manor gets his share, the gardener can tell you he has had no time to be idle, no inclination to leave much to "nature," nor disposition to think whether the operation did or did not "pay."

And this last part of our sentence brings us to our

real troubles. "It won't pay," is our great enemy. It is more destructive than the curculio,—burns greater holes in our pockets, and tempers than the fire-blight, is a great "borer" of the first class, and a bug of enormous magnitude. Mildew, and rot, and bugs, and "blight," have destroyed their thousands; but "it won't pay," has slain its ten thousands. Go where we will, look at what we may, or read of aught that we do in Horticulture, we find "it won't pay" every where. Here it is clothed in a large garden, where half paid laborers half do half the work on the place, and the other half goes undone for want of time. The lawn is a hay-field—the park has degenerated to a potato patch—the greenhouse grins at you through a score of crevices as you pass by it, and the poor over-worked "gardener" who has probably just returned from market, where he has been to sell cows, puts on, as he looks at you, his best airs, lest you may chance to suppose he is ignorant of the proper time to sow peas, or plant potatoes. "It won't pay," reigns here; and there, where no gardener is kept, no park, no lawn, no pretension to departments of any kind, every thing is attempted, and nothing succeeds; an osage orange hedge on the boundaries running up to seed,—apple trees moss-barked from cold clay soil, and cherries hide-bound from poverty and weakness. Plums toppling over by action of the borer. Peaches eaten up by the yellows,—in fact no labor, no fertilizing sweat—thorns and thistles rampant—verily "it does not pay."

It is a pleasure to hear the expression from the lips of an agriculturist. "Will it pay?" is the first article in his constitution. Profit is the point of honor with him. To make the "store" in the city, meet the expenses of the farm in the country, is placing the ass on the back of the animal that should be its rider; and where fruit-culture is adopted as part of a system of agriculture, we care not how often or how earnestly is asked the question, "Will it pay?" But we protest against its admission into the ethics of horticulture. Like Caleb Cushing in another case, in this we set "our face like flint against it." It debases horticulture,—ruins its professors,—and shears it of many of its most delightful parts. Horticulture is solely and entirely for pleasure and gratification, and wherever these are achieved, "it pays well." If our means are limited, instead of ten acres of a garden, have only five. If we cannot command the means to grow every kind of fruit, grow but one, and grow it well; and if we attempt to keep any thing of a garden, employ only the best skill to attend to it, and pay that skill well. The man who really loves his garden for the pleasure it affords him, and has a gardener who is really a gardener, one who has made

it a life-long study, and meets sufficient inducements in its pursuits to warrant him in entertaining no lingering wish that he had years ago, "changed it for a better one," never asks "does it pay?" any further than it brings in a rich harvest to the granaries of his mental and moral nature.

When we look at fruit-culture as it is with us, we are bound to confess that it has degenerated. Agricultural views have become so incorporated with horticulture, that scientific skill, and taste, and talent, have become cheapened, and seeks more remunerative channels. "It must pay" has frightened us. The trail of the serpent marks all that we do.

We hope for better days, and that too at no distant date,—when most of our gardens shall have fruit in abundance, and to spare; and skill, labor and talent, to that end, shall be appreciated as they deserve to be.

Scraps and Queries.

✂ Communications for this department must reach the Editor on or before the 10th of the month.

✂ The Editor cannot answer letters for this department privately.

JETHRO TULL'S SYSTEM.—B. inquires, "I have seen a statement that Tull continued for twenty years, to get first-rate crops from ground without manure. If this is correct what becomes of your modern theory of manuring?"

We have seen no such statement in any authoritative work. On the contrary, Tull's system was a failure. Like many at the present time, he thought and wrote first, and practised afterwards, in a great degree; but his own experiments did not bear out his theory. A few years before his death he expressed his want of faith in his own system as a *certain rule of practice*. Instead of twenty successive crops, *six* were all that he is reported to have tried, and these were "beautifully less" each year. If you are seriously leaning to the idea that the soil contains within itself an inexhaustible source of fertility, we shall expect to hear of sundry patches over your unmentionables, and a purse with microscopic contents, heading the next chapter in your history.

DOOLITTLE BLACK CAP RASPBERRY.—After our last number went to press, we received a note from Mr. Collins, of Auburn, New York, giving an account of the discovery of this in 1853, or '54, by Mr. Joslyn. In substance the same as already given from the pen of Col. Hodge. Mr. C. will nevertheless please accept our best thanks for the information.

APHIS ON APPLE TREES—J. L. G. Milford,

Ohio.—“Is there any thing that will kill the aphids on large apple trees while in the ground?”

[They usually attack only the younger points of the shoots. We should syringe them with nauseating compounds, or cut off the shoots, and burn them. Perhaps our correspondents may, some of them know a better way.]

QUINCE STOOLS—*Paradise Stocks*.—A correspondent, without date or signature asks:—

“Please inform a young nurseryman how to plant Angers Quince stocks for stools. Also the Orange Quince for stools,—also whether Paradise and Doucain stocks can be grown profitably in this country, and if so, how?”

[Set out plants two feet apart; cut them to the ground in the spring, and about July, when the shoots have become a little hardened, place a few inches of soil about the bases of the shoots, which will root, and may be taken off as plants the next spring. Cuttings of Quince stocks are taken off and planted in the fall, and protected by litter, leaves, or shavings from severe frosts.

Paradise stocks are raised from cuttings of the roots. For a full chapter on this subject, see our first volume, page 24.

THE NANSEMOND SWEET POTATO—by C. B. Murray, *Foster's Crossing Ohio*:—

A small tract on the cultivation of this popular esculent. We have no doubt by attending to the rules given, roots of an enormous size may be grown; but whether Mr. Murray can beat the following from the *Houston Telegraph*, we will let himself say:—

Largest Potato in the World!—Sweet Potatoes grow to a tolerably large size in the United States, but in the Republic of Texas they beat the world, especially in the Oyster Creek nation. Messrs. Kyle & Terry sent us one yesterday that weighed *twenty-nine pounds*, and measuring thirty-nine inches in horizontal, and thirty-three inches in vertical circumference.

CAMELLIAS—DWARF PEARS—*A subscriber, Philadelphia*.—An article by a lady in another column, will afford you good hints for managing your room Camellias. They will not do well in winter, in a dry cellar near a furnace; but would do in a cool one where they could get sun sometimes.

If your four year old Dwarf Pears continue to grow freely, you need not prune much now. That operation is principally to encourage vigorous growth. If they are well set with buds, they may over-bear next year if too many set. When as large as Walnuts, thin out all but a few dozen, which is enough for the first year of bearing.

PEARS—MULBERRIES—*H. Worcester, Mass.*—Your proposed plan of setting Dwarf Pears in rows running north and south, ten feet apart, and six feet apart in the row, is rather close together, and unless the soil is very well supplied with fertilizing materials, and the deep, we should fear they would dry out in hot seasons, and soon become stunted.

We have no experience in striking the Downing Mulberry from cuttings; but it will no doubt do as well as other kinds, which taken off in spring, and treated as simply as Currant cuttings, usually grow as well. They are often grafted on White Mulberry, we believe.

SWAMP MUCK AND SAW-DUST AS A MULCH FOR DWARF PEARS—*C. M. D., Jamaica, L. Island*.—Saw-dust is injurious to most plants and to most soils. We suppose your soil is sandy, in which case, swamp muck will probably prove a beneficial mulch.

METROSIDEROS NOT FLOWERING—*J. McK., West Manchester, Pa.*—Enclosed I send you a small twig from a plant called *Metrosideros*. The plant has been in my greenhouse eight years, (a fine, thrifty plant,) but has never flowered. Can you tell me the reason? I have seen them in other greenhouses covered with flowers. But a month or two ago I cast my eyes on a poor, miserable, scrubby, half-starved little thing all covered with flowers. I came home so vexed at my barren plant, that I took right hold of it with the intention of throwing it out; but, after a moment's reflection, concluded to leave it alone until I would ask you whether there was such a thing as a barren *Metrosideros*. Therefore, on your decision hangs his life, if a he it should prove to be. (1.)

Also, another twig from a plant I call *Akenia mollis*. Because I bought it under that name. Some of our florists say it is not the name of the plant, but fail to give me another. Can you give me the correct name.” (2.)

[1. *Metrosideros floribunda*, and never flowers freely till it has been first well grown, then half-starved, when it is one of the handsomest plants grown.

2. It is *Akenia mollis*, more usually, however, called *Malvaviscus mollis*, sometimes *Hibiscus mollis*.]

RUBUS LACINIATUS—*M., Cincinnati, O.*—This has been for some time in cultivation around our large cities, and notices of it are frequent in our first volume, particularly at page 184. Mr. Lawton, having called the particular attention of the Pomological Society to it, it has lately received marked attention.

It is the cut-leaved variety of the common English Blackberry *Rubus fruticosus*. It received its name, *fruticosus* or "shrubby," from the fact of its possessing a more woody habit. In the temperate parts of Europe the writer has seen stems of it as thick as his wrist, and several years old; but in more northern latitudes it dies down every year. Where it retains its woody character, it throws up but few suckers; but where it dies down, it has the habits of all the rest of the class. We certainly regard it as worthy of attention.

ORIGIN OF THE MOSS ROSE.—A correspondent recently inquired of us the origin of the Moss Rose. The following is all we know. The poet is a little lame in the grammar of the second line, but this we can forgive on account of the beauty of the thoughts that follow:

The Angel of the flowers one day
Beneath a rose-bush sleeping lay,—
That Spirit to whose care is given
To bathe young buds in dews from Heaven;
Awaking from his slight repose,
The Angel whispered to the Rose,
"Oh, fondest object of my care,
Still fairest found where all are fair,
For the sweet shade thou'st given to me,
Ask what thou wilt, 'tis granted thee."
Then said the Rose, with deepened glow,
"On me another grace bestow."
The Spirit paused in silent thought,—
What grace was there that flower had not?
'Twas but a moment,—o'er the Rose
A veil of moss the Angel throws,
And robed in nature's simplest weed,
Could there a flower that Rose exceed?

BRIGHT'S SYSTEM OF PRUNING GRAPES.—We have received from Mr. H. E. Chitty, of New London, Conn., further remarks in reply. We very much regret that our space is so limited as to forbid lengthy and prolonged controversies on any subject introduced. When any party gives his views on any question, our pages are open to the most liberal criticism, and we cannot deny the criticised party the right to reply. Mr. Chitty's article is an excellent production, occupying six closely-written pages of cap-paper, would take near three pages of the *Monthly*, and on which he must have spent much care. We are very sorry that the rules we have to adopt for our guidance prevent its appearance. With regard to the subject itself, we must be allowed to say, that nothing but facts and figures as to the comparative merits of the two systems will satisfy us and the public. Science partially favors both views. Experience must strike the balance. At present Mr. Chitty and the permanent cane party have the best of the argument. Vines on the old system have, as Mr. C. repeats in the article now before us, "borne satisfactorily for twenty, thirty, and fifty

years," and gardeners are justified in hesitating to abandon what they know to be a good system, for one that is *possibly only better*. Gentlemen, let us have a few more experiments. Nothing like them for testing knotty questions.

A few days ago we read in an exchange—*The Banner of Light*, we believe—an account of a meeting of philosophers at Boston, when one, a Dr. Adams, asserted, as a fact, that a quart of water could be got into a quart-measure already filled with sand. The subject was debated *pro and con* by the savans present, and no conclusion seemed to be arrived at by the distinguished body. Our office-boy coming in at the time, we propounded to him the question. "Dun know," says he; "but I'll try." In a few moments he returned with the report that the quart of sand took up one-third only of the water in the other quart, demonstrating, at the same time, the folly of the "philosophers," and the additional fact that a measure of fine bar-sand contains within it one-third of space.

The hint is not intended for those exclusively who wish to give us "a little more grape,"—all of us can profit by it.

HOT-WATER TANK—*A Subscriber, Bowmanville, Canada*.—In a propagating-pit sixty feet long I intend building a tank three feet wide, to be heated by an elbow of a four-inch iron pipe built in the furnace. About two feet of the pipe will be exposed to the fire. How long will it be advisable to make the tank? (1.)

What work on propagating and cultivating exotics do you consider the best? (2.)

[1. It depends on the size of the furnace and the amount of heat you can bring to bear on the pipe boiler. With an ordinary strong fire and little water in the tank, it would be safe to run the tank the whole sixty feet of length.

2. There is no complete work. "Buist's Flower-Garden Directory" and "Breck's Flower-Garden" are the best we know.]

PRAIRIE FLOWERS—*Mr. R. O. Thompson, of Nebraska City*, sends us an account of the many beautiful flowers of that region. Botanical collectors, from Michaux and Nuttall downwards, have pretty well explored the country, and it is more than probable that every thing beautiful has already been made to pay tribute to our collections. The seeds which Mr. Thompson encloses us, for instance, belongs to *Clematis Virginiana*. If the gentleman will send us dried pressed specimens of flowering shoots next season, we can probably tell him whether or not they have been already named or introduced, and

the good services he so very kindly offers thus rendered more certain of results.

Mr. Thompson says:

"The Prairie Dwarf Seedling Rose, twenty kinds of native grapes, eight of strawberries, six of wild plums (better than many tame ones), twelve creepers, two gooseberries, two raspberries, and many flower-roots I will send by mail or express to any one, *gratis*, who wishes them. I have a desire to see our rarities, beauties, and good things sent abroad and tested in every locality in the States. I send you enclosed seed of one variety of creepers,—a most beautiful thing. Cuttings of the grapes, scions of the plums, plants of the strawberry, and roots of the rose and creepers will be mailed to all who apply for them."

STRELITZIA REGINA—G. W., Wellington, Canada West has had a plant four years that has not produced flowers. When well established, they flower very freely here. The custom is to give them plenty of pot-room, and set the pots in the summer in a hot, sunny place in the open air, and in a warm stove in winter. They bloom freely every summer.

RAISING TREE SEED.—F. W. says:—"The different kinds of elm, birch, and linden seed I have failed in raising from seed. What is the best time and manner?"

[Elm, if fresh, usually grows well sown early in spring. The other kinds must either be planted in fall, or suffered to lie over in the ground a year without growing.]

AZALEA FLOWERS—E. F. S.—We are sorry to say that the flowers were so completely crushed in the letter, that it was impossible to name them for you. They should be sent in a small box with damp moss around them.

THUJA WAREANA, OR PLICATA—R. B. says:—"This is a seedling variety of our American *Arboretum*. We have quantities of seedling plants from the former that all prove the latter."

Books, Catalogues, &c.

BRIGHT ON THE GRAPE-VINE.—We have been favored with advanced sheets of the second Edition of Mr. Bright's book, in which we find many new positions advanced, that will attract considerable attention. For some years past the best grape-growers have been gradually abandoning the old idea of animal carcasses, and strong nitrogenous matters for borders. We find in this that Mr. B. takes the ground, that all such, even stable manures, are

not only no good, but positively injurious. Mr. Bright's views we regard in many points extreme; but his writings have had an immense influence in introducing good practices into favor, and we are glad to see that he has been encouraged to bring out a new and improved edition.

THE PRINCIPLES AND PRACTICE OF LAND DRAINAGE.—Embracing a brief History of Underdraining; a detailed examination of its Operation and Advantages; a Description of various kinds of Drains, with Practical Directions for their Construction, the Manufacture of Drain Tile, etc. Illustrated by nearly 100 Engravings. By John H. Klippart. Robert Clarke & Co., Cincinnati.

Every reader of the *Gardener's Monthly* is well aware of the importance of underdraining. He who practices it generally adds acres to his farm, without the cost of new deeds. The present work seems to be a collection of all the points in the history of underdraining from the earliest period to the present time. It came to hand only as we go to press, and we have not as yet been able to read it carefully; but a hasty examination warrants us in trusting that it will have a wide circulation amongst all interested in the improvement of the soil.

The *American Stock Journal*, devoted to the improvement of our domestic animals throughout the United States. The first and second volumes bound, have been sent us by the publisher. We believe it is the only Journal devoted to these subjects exclusively, and deserves extensive support. The last number contains minute details of Rarey's system of Horse-taming, by which the most vicious animal becomes an equine Katharine in the hands of this modern Petruchio.

E. WARE SYLVESTER, Lyons, N. Y. Fruits and General Stock.

JOHN G. BARKER, Hartford, Conn. New and choice Bedding Plants.

RANDOLPH PETERS, Newark, Del. General List.

B. K. BLISS, Springfield, Mass. Flower and Vegetable Seed, Fruits, &c. 70 pages.

GEORGE NICHOL, Providence, R. I. New Roses, &c.

C. BEADLE, St. Catharine's, Canada West. Trees and Plants.

URI MANLY, Marshall, Ills. Fruits and Ornamentals.

EDGAR SANDERS, Chicago, Ill. Bedding Plants.

G. GOLDSMITH & Co., Indianapolis, Ind. Fruit and Ornamentals.

J. H. BOARDMAN, Brighton, N. Y. Grape-vines, &c.

W. T. & E. SMITH, Geneva, N. Y. Fruits, Trees, and Flowers. 32 pages.

NEALLY BROS. & BOCK, Burlington, Iowa. Wholesale Catalogue.

R. LINSLEY, West Meriden, Conn. Roses, Bedding-out Plants, &c.

J. KNOX, Pittsburg, Pa. Small Fruits.

TRUEBLOOD & LIPSEY, Salem, Ind. Fruits.

JOSHUA PIERCE, Washington, D. C. Small Fruits.

Full sets of Catalogues of the extensive departments of the following gentlemen have been received:

ANDREW BRIDGEMAN, Broadway, New York.

R. BUIST & SON, Philadelphia.

The Catalogues of the following well-known firms are on our table, and, in addition to their usual full lists of things cultivated, contain on their fly-leaves advertisements of the *Gardener's Monthly*, for which act of kindness the publisher returns his best thanks.

BATEHAM, HANFORD & Co., Columbus, Ohio. Fruits, Trees and Flowers. 50 pages.

BARNES & WASHBURNE, Harrison Square, Mass. Flower and Vegetable Seeds. 50 pages.

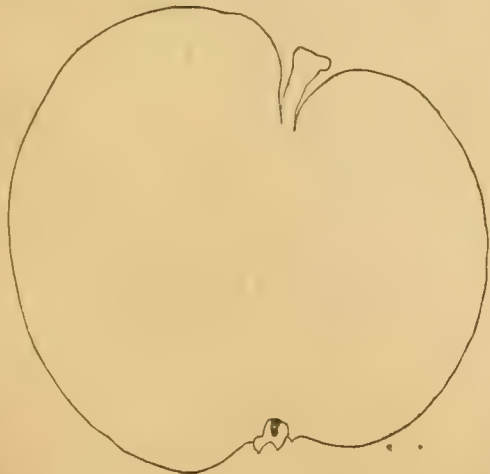
E. C. FROST, Havana, N. Y. Fruits and Flowers, with sketch of Wagener Apple.

J. A. BRUCE, Hamilton, C. W. Seeds and Flowers.

New and Rare Fruits.

GIPSON'S KENTUCKY SEEDLING APPLE—Mr. C. P. Hale, Calhoun, Ky., writes:—

Enclosed I send you an outline of an excellent winter apple which grows in this county. The out-

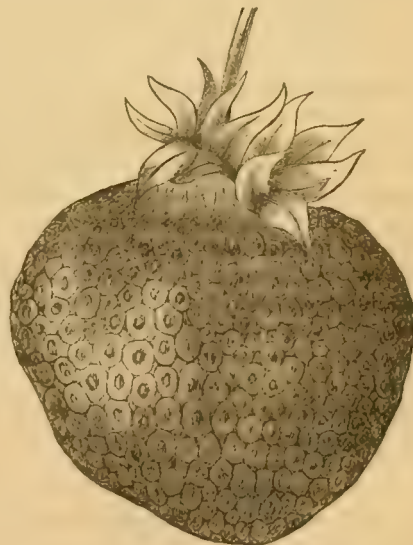


line was taken by drawing a pen around one half of the apple. It gives the shape except the calyx, which

was injured. The tree grows on the farm of Mr. A. Gipson. I propose to name it Gipson's Kentucky Seedling. Mr. Gipson says the tree while young was found growing by a path-way leading from an orchard of the Prior's Red apple, to a school-house in the neighborhood, and he thinks it sprang from the seed of that apple, dropped by the children passing to or from the school-house. He says it is more productive than the Prior's Red, or Rawle's Jannet, on his farm, and keeps better than either of them; that it produced twenty or thirty bushels of apples this season; and, that it has never been pruned. There have been no trees propagated from it yet.

Size rather below medium, round-ovate, one-sided; skin smooth, dark red on sunny side on greenish-yellow ground, blotched with dark brown, dotted with small black dots in patches, and specked with small gray specks in the skin. The brown blotches and black dots may be rubbed off without injuring the skin; stalk from $\frac{1}{4}$ to $\frac{1}{2}$ inch long; cavity narrow, uneven; basin shallow, slightly plaited; calyx partly closed; flesh pale yellow, very fine grained; tender, juicy, sprightly, sub-acid; keeps all winter, about equal to the best for this country.

NEW ENGLISH STRAWBERRY—*Frogmore Late Pine*. This is not as large as a "cocoa nut," as friend Hovey would say; but is extolled by the English growers for being larger and better than any late



kind in cultivation. Since the old notion, that foreign strawberries will do no good in our climate, has been exploded as a general rule, some of our cultivators will doubtless have this variety introduced, and placed on the trial list before this season

Domestic Intelligence.

OSAGE ORANGE HEDGES.—I have made good hedges in five years, as follows, for 100 rods:

3000 plants	\$12 00
Ploughing and preparing strip of land, half day.....	1 00
Setting the plants	3 00
Cultivating three times a year, five years.....	2 00
Cutting back with stub-scythe, about	3 00
Interest, about.....	5 00
	<hr/> \$26 00

or about twenty-five cents a rod. By employing burlers, hand-shears, picking out weeds with the fingers, &c., the cost might have been greatly increased. Ploughing and harrowing a strip five feet wide on each side, which is cheaply done, is at least twenty times more useful than merely hoeing by hand a narrow strip where the plants stand. The roots run far, and care nothing for a few weeds in the row.—*Country Gentleman.*

APPLES PER CENTRAL NEW YORK.—The report of the Oneida community says: "These have been unusually abundant and perfect. Sorts, heretofore very imperfect, show what they are in these favored localities.—The *Red Astracan*, *Primate* and *Sweet Bough*, among summer varieties; the *Porter*, *Gravenstein*, *Norton's Melon*, and *Lowell*, autumn sorts; and the *R. I. Greening*, *Baldwin*, *Esopus Spitzenburgh*, *Swaar*, *Wagener*, *English Russett*, and *Northern Spy*, late keepers, have all proved well adapted to this place. The *Primate* is the best summer apple we know. *Baldwin* and *Porter* liable to overbear. *Swaar* and *Spitzenburgh* pay for high culture. *Wagener*, a famous early bearer, and of superior quality. The *Northern Spy*—"slow but sure,"—has this year shown that it will produce great crops of large apples. The next enlargement of our apple-orchards will be of this sort. First full returns from young orchards—one thousand bushels of choice fruit harvested."

GRAPE EYES.—A correspondent of the *German-town Telegraph* writes, that he prepares and plants grape eyes in the usual way, and sets the boxes in a warm closet where they sprout, and are gradually injured to light and air, and that he has succeeded well in this way.

THE OHIO BEAUTY, APPLES.—Dr. Warder read a letter from Mr. William F. English, Rhinehart, Anglaise county, Ohio, referring to the "Ohio Beauty." Mr. English says: "One tree of this va-

riety, of about sixteen years' growth, charmed and astonished everybody. Almost every approach to the trunk of the tree was cut off by the limbs bending to the ground; in many places, apples matured resting on the ground. Some of the limbs of this tree extended twenty-two to twenty-four feet, horizontally, from the trunk, and yielded the present season thirty bushels of apples. The largest apple we weighed this season weighed one pound. Full as the trees were, one hundred and twenty to one hundred and twenty-five, taken on the average, make a bushel. Every day still more and more confirms me in the opinion I formed before I was so well acquainted with other varieties; that is, that among the best apples in general cultivation, it has no equal."—*Cincinnatus.*

IMPROVED HOLLYHOCKS.—Radical shoots, taken off as cuttings in the spring, no doubt give the strongest spikes, but they may easily be propagated by single eyes in July and August. Plant out in March; the former month is best for early flowering, the latter for very late blooming. Never plant on new ground, or in maiden earth, but choose a soil that has been well worked, and if well trenched, so much the better.

DRYING RHUBARB.—Rhubarb dries very well, and when well prepared, will keep good for an indefinite period. The stalks should be broken off while they are crisp and tender, and cut into pieces about an inch in length. These pieces should then be strung on a thin twine, and hung up to dry. Rhubarb shrinks very much in drying—more so than any plant I am acquainted with, and strongly resembling pieces of soft wood. When wanted for use, it should be soaked in water over night, and the next day simmered over a slow fire. None of its properties appear to be lost in drying, and it is equally as good in winter as any dried fruit. Very few varieties of rhubarb are suitable for drying, as most of them contain too much woody fibre. The best variety of rhubarb for any purpose is the *Victoria*, when grown in a suitable situation. The *Mammoth* is worthless, owing to its fibrous nature, as are also some other kinds.—*Prairie Farmer.*

Foreign Intelligence.

MUSHROOM GROWING.—The artificial cultivation of mushrooms is now so well understood and practiced that perhaps little more can be advanced on the subject. In my own case, I merely state a mode of growing them in the spring and summer months, which I have found to answer better than any way I have yet tried. In a large Vinery here, used for the growth of the *Black Damascus Grape*, there is a long

pit or bed in the middle of the inside of the house. This bed is about 3 feet in depth, by the same in width, and is filled with well prepared horse droppings, in February, or beginning of March, to heat the roots of the Vines, and to make a moist ammoniacal atmosphere for the buds breaking. About the beginning of April, when the bed is no longer wanted for this purpose, I add a little more fresh droppings to the surface of the bed, and spawn it in the usual way. Some good fresh turfy soil of a loamy nature is then put on the surface, and the whole beaten as hard as possible with a wooden mallet. Wooden shutters, or boards, are then put over the bed, the surface of which is at least 6 inches below the boards. The young Mushrooms usually appear in the beginning of May, and the beds continue in full bearing all through that month, and June and July. The Mushrooms from this bed are not like the half-starved buttons grown in regular Mushroom houses, but large dark brown fellows from 3 to 4 inches in diameter, and as full of juice as field Mushrooms. At one of the horticultural shows at Chiswick, I remember having seen a fine large dish of forced Mushrooms, sent by Mr. Ingram, from Frogmore, which were of the same color and substance. They were stuck into Moss in a shallow basket, which showed them off better than the usual modes tried at exhibitions. I attribute the large size and succulence of the Mushrooms grown in this way, to the deepness and quantity of the fermenting materials in the bed, and the additional moisture in the air of a large Vinery; for the boards are frequently taken off the bed, when the vines are syringed or watered at the roots. When there is room in the inside of Vineries, or Peachhouses, for a bed for using fermenting materials, no better plan can be devised for making Vines and Peaches break readily, and the beds can afterwards be used for growing Mushrooms. The only precaution is when the fruit begins to ripen, to clear all the beds of the fermenting materials, and cover them up closely with the shutters or boards, to prevent dampness. In August, or September, I usually clear the bed here clean out, and the Black Damascus Grapes keep without damping or shrivelling till the end of November.—*William Tillery, Welbeck.*

CYCLAMENS.—Never dry them, as the "general practice" does; but when the flower and the frost are done with for the season, plant out the balls entire in a warm border, where the roots will not be disturbed the whole summer, let them take the rain and the drought as they happen to come; but do nothing more on your part till the middle of August, then watch them, and the moment you perceive a move for fresh leaves, up with them that day, shake off every particle of soil from the roots, and po

them in the flowering pots at once, in good holding loam, with a little sand and very rotten cowdung, and so dry as that it will sift like leaf mould, drain particularly well, and let the bulb be one-third out of the earth; and if you could plunge the pots in a cold frame, one watering would do till after Christmas.—*Collage Gardener.*

PELARGONIUMS—*Best Show Varieties.*—Aurelia, Brilliant, Criterion, Eclipse, Etna, Evelyn, Fair Ellen, Fairest of the Fair, Fire Queen, Lady Canning, Leviathan, Miss Foster, Mr. White, Prince of Wales, Rosy Gem, Rosalie, Ringleader, Rose Celestial, Richard Benyon, Rose Leaf, The Bride, Viola, Vestal, Wonderful. Best new ones coming out: Autocrat, Hyperion, Lord Clyde, Hesperus, Bacchus, Apollo, Cherub. *Best Spotted*—Arab, Charmer, Charles Turner, Conspicuum, Fancy, Guillaume Seyren, Guido, Hero, Mazeppa, Mr. Beck, Mr. Hoyle, Madame Pescatore, Madame Lemichez, Peacock, Pescatore, Sanspareil, Spotted Gem, Spotted Pet. Best new ones coming out: Beadsman, Bracelet, King of Purples. *Best Fancy.*—Acme, Bridesmaid, Captivator, Clara Novello, Cloth of Silver, Circle, Formosum, Madame Rougiere, Mrs. Turner, Marchioness of Tweedale, Negro, Princess Royal. Best new ones coming out: Lady Craven, Omega, Sarah Turner.—*Dobson & Son, Isleworth.*

Foreign Correspondence.

Letter from our Occasional Paris Correspondent.

FRIEND MEEHAN, you were very kind when you stated your five arguments why I should be Letter-writer Extraordinary to His Excellency the *Gardener's Monthly*. Shall I hit you back with five arguments against it? Let two suffice. I am not on a gardening tour. I am not scientific enough even for an "occasional." I will, nevertheless, write when the spirit moves. Alas! the spirit moved me the other day in a melancholy way. Cemetery flowers made me think of you and the *Monthly*. I went to seek the grave of a young man, an American, who died just before my arrival here; died, too, of — Paris; a schoolfellow of mine, whose living eye and hand and tongue I expected to enjoy here; who came over to —; but that sad tale has no business here. Well, the cemetery differs from those at home in nothing more than in the abundance of wreaths of Immortelle flowers. The French love to visit cemeteries. Their gay nature here, perhaps, finds that reaction which every thing in creation seems to require. Even distant friends and relations are visited by them, when dead, with a feeling of kind remembrance, which these, when alive, unhappily do

not enjoy, and for all there is the wreath of Immortals.

Busts and statues, on anniversaries of the death of their originals, are wreathed in the same way. Napoleon I., cast in bronze, standing on a high column made of iron ordnance taken in battles and recast, on every recurring day of his death, gets profusely bewreathed, mostly by the few veterans still living. Or if one of his old followers living in the provinces happens to come to Paris, he will not fail to hang up his wreath on the iron railing round his idol's column in the Place Vendome. Of course, the cultivation and sale of such wreaths has become a distinct trade. Numbers of girls are employed to make them, and they are sent from Paris all over France, selling by the dozen, the gross, and the hundreds of gross.

But away with *lemoncholy*,—let us turn to live fresh flowers, even in winter. Let us go to the ball of Madame Secretary of State, here called Minister for the interior. This is the night, here is the card of invitation. You smile. You want to know what business I have with the ball? Incredulous, modest man! Do not all the gardeners belong to the world's aristocracy? Am I not, further, a representative of the American nation? Is not America "a great country?" And, lastly, if gardeners were contraband articles for such balls, who knows me, in my present position, as ever having handled spades any more than clubs or diamonds or hearts? But I will not lead you into the ladies' saloons; I will but show you the approaches; how, when once your foot has passed the portecochère, you will forget season, climate, and our common notions of habitation; for you will step into a bower or grove of exotic plants, all so arranged that you see no pots and tubs. Rhododendrons, Azaleas, Camellias of every quarter of the globe, and of the fifth, too. Musas of Ethiop, Acacias of New Holland, Heathers of the Cape, all the varieties of Palms of the Islands, the natives of Java, of the Brazils, of scorching Africa, of India in the East, of Cuba and of Botany Bay, they all meet here in brilliant gaslight, to strike your eye with the dazzle of their blooms, to fill your brain with their bewitching fragrance; in fact, to time you to the ball and to gaiety, and to "nerve," if, perchance, you arrive in the wrong mood. And whence all these plants? Not from the greenhouses of Monsieur le Ministre, to be sure. Why should he risk his plants, when for so much he can have so many for this or that occasion? Save me from statistics, friend Meehan. I hate figures. It is sufficient to tell you that a good many establishments earn every winter a good deal of money by hiring out the denizens of their plant-houses. The pay, however, is not for the bringing and fetching alone, nor

for the per centage of wear, tear, and risk; but for the art of placing them along the entrance, up the stairs, etc., for making decorations, for hiding, by their aid, unsightly nooks, for filling up with them useless corners, and for accomplishing really artistic designs. When the city of Paris gave a ball in the City Hall, to Queen Victoria of England, when she was here, the large spaces of roof intervening between the second floor of the principal sides of the quadrangle and the different buildings rising from it—the depressions or spaces being necessary for letting in the light—were roofed over in Crystal Palace manner; connected with these buildings, the floor, heretofore roof, boarded and gardens made of them, in which birds sung and fountains played.

And as a contrast, turn now to those exhibitions from which all classes to the humblest draw their supply of plants and flowers, to the flower-marts of Paris. Of this I will write to you on some future occasion. M.

Horticultural Societies.

THE FRUIT-GROWERS' SOCIETY OF EASTERN PENNSYLVANIA.

(Continued from Page 96.)

ARE COLD GRAPERIES WORTHY THE ATTENTION OF THE FARMER?

Mr. S. Miller said it was a mistake to suppose these structures required very close attention. A friend of his, who was an engineer, usually left a cheapinery he had erected go all day without any attention, and he had perfect success.

Mr. B. Bartolett, a farmer of Chester County, said, in 1844 he put up against his house ainery twelve by sixteen feet, at a cost of about thirty-four dollars. He had frequently given it no attention for several weeks, and year before last particularly. Has very fine crops. He had, he thought, as much as two hundred pounds on some occasions from four vines.

Mr. A. W. Harrison, though only a horticultural amateur and not a farmer, thought that, from his experience, there was a profit to be made well worthy of the farmer's attention. More care would have to be exercised in having matters safe from contingencies, so that, as in Mr. Bartolett's case, theinery might be left a long time without care. Inside borders had such advantages. Besides the money profit, the refining influences of such operations on the farmer's family was worth a good deal.

Mr. Saunders spoke of the increasing risk of failure in pears, cherries, apples, &c., and asked, What so certain as a crop ofinery grapes? There was too much mystery made of grape-growing,—too much nonsense in usual rules of management.—Borders three feet deep were sufficient, and cost but little. As for so much talk about soils, any earth that would grow good cabbages would grow good grapes. He favored inside borders, made arrangements to keep the air moist as heat increased, which also had a good effect on restraining mildew. No crop produced so much for so little outlay, and he hoped every farmer would profit by Mr. Bartolett's experience.

Mr. Bartolett said he had both an outside and inside border. Thought that a border wholly inside would at times get too dry. He laid down and protected his vines in winter, until the spring opened and the buds pushed. Kept the sashes shut, more or less, till all danger of frost was over, when they were left open altogether. He used soap-suds and sulphur about three times a year over the leaves and about theinery, and attributed to it his freedom from mildew.

Mr. Saunders remarked, with regard to the drying of inside borders, that he had found one thorough watering a year sufficient.

CRACKING OF THE PEAR AND BLIGHT.

Mr. Baldwin thought electricity at or about the time of thunderstorms had an influence on the production of blight, and thought some application might guard against it.

Mr. Millman observed that blight was quite a modern disease, while we had thunderstorms years ago.

Dr. Eschleman thought locality had some reference to the cause of cracking. In some localities Hosenshenk did well; in others it cracked badly. At New Holland, Lancaster County, the Miller did finely, but was worthless with him in Chester County. Fre-

quently only single limbs were struck with fire-blight, and when there were no thunder-storms.

Mr. Harrison thought that when a tree was weakened in its constitution by any course of treatment, any unfavorable circumstances to general health would bring out disease. He instanced two trees of the Des Nonnes Pear in his garden bearing fruit for the first time. Around one of these a thick dressing of stable-manure had been accidentally placed the year before. The tree grew vigorously, and last year the fruit cracked badly. The other Des Nonnes Pear, as well as the other pears in his garden that bore, did not crack. An abundance of nitrogenous manures rendered wood soft and spongy, as it makes a cabbage tender and juicy, and when in that condition disease fastens on the structure and often becomes hereditary and constitutional. The knowledge of the effect of peculiar substances on the health of vegetable structure was only in its infancy. Mr. Baxter, of Philadelphia, famous for fine pears, hung iron about his trees. The rain brought the oxide to the ground, and it was, in his (the speaker's) view, but a clumsy way of applying oxide of iron to the soil. Sulphate of iron has been known to make leaves of pear trees very large, and the fruit very fine. Experiments with steel in trees have resulted in no good, indicating that it was the oxide of iron from the use of the latter that was beneficial. When the tendency to disease had become a habit, many things would bring it out, and many things would also produce the tendency to disease. Bearing young, in vegetables as in animals, had an enervating tendency. Give him well-ripened, close, compact, hard wood, a stock from a healthy parent, and one that has not over-borne when young, and he did not fear disease.

Elwood Thomas, of Montgomery County, grafted a hedge pear with W. Doyenne. Bore well for a few years, then cracked badly. After that he grafted Julienne, which has since done well. The tree has always been surrounded by sad. He thought it could not be deficient elements in the soil, or in such a case the Julienne would crack as bad as W. Doyenne.

Mr. Grider thought there might be sufficient of certain elements for one variety, and not for another, for he knew a friend who had a pear, the fruit of which cracked freely, and after a plentiful application of salt to the ground about the tree, the disease disappeared.

Mr. Miller thought he had known beneficial results both from iron and salt. Had seen fine White Doyennes in Lancaster County in sheltered gardens.

Mr. Baldwin had seen scions taken from healthy White Doyenne trees, and put on trees that bore cracked fruit, and for some time after the fruit was healthy.

Mr. Harrison agreed in the view of Mr. Grider. It was well known that one kind of soil would render a grape sweet, another kind of soil would produce the same kind more sour. It was so with the pear. High-flavored pears absorbed more of the elements of perfection. Hedge pears would be satisfied with very little.

A gentleman observed that guano-water had been found by him favorable to healthy fruit.

A. W. Corson had a Butter Pear to crack seven successive years. Last year dressed the surface about the tree with ashes and stable-manure, with a perceptible benefit to last year's crop.

Mr. Lukens Pierce made some remarks which our reporter did not hear, and

Mr. Saunders observed that he had given the subject much attention, and was satisfied that cracking was owing solely to atmospheric causes. Soil analysis was so indefinite that no satisfactory result could be had. Two analyses on soil, taken but a few feet from each other, would vary in elements and in their proportions. This might be considered but a "practical" view; but there were two classes of "practicals"—those who "practiced" and observed as they went, and those who "practiced" what they were taught—mere machines, who never bestowed a thought on what they were doing. Agreed with Mr. Harrison, that ripe wood was important. Where wood was not well ripened, partial shelter would mitigate or keep off crack and blight. The effect of frost on soft wood was much the same as heat in summer. The moisture evaporated too rapidly, and disease or death ensued.

Mr. Miller enquired if summer-pinching would harden or ripen wood, and

Mr. Saunders replied that it would, if done early in fall.

Mr. Vos, of Berks County, spoke highly of the Reading Pear, which, he said, was as easy to get perfect as the Bartlett, and bore nearly as well. He was not much of a reader, and got his knowledge entirely from experience. His views, whatever they might be, were, therefore, his own, and not suggested by other parties; and he would say that he had found great benefit from light manures for the pear. In fact, he considered wood-ashes, salt, and iron-slings indispensable to get perfect fruit. His soil was clay subsoil, and never had any sign of blight or crack amongst his fruits. He grew many kinds, and all did equally well. He manures entirely by top-dressing. There were soils about Reading in which no pear could be made to grow.

General Keim said there was an extremely fine winter pear cultivated in the neighborhood by the early German settlers, which they called the Och, and which for many years was entirely free from crack and blight. Pears were less subject to disease in the city of Reading, where they were protected, than in the environs.

He said there were many very fine varieties of fruit about Reading, named after good citizens, that had sprung up from self-sown seed brought from Canada by the Indians, who had a regular meeting or camping-ground in the vicinity every spring. The Kora Apple, he thought, and undoubtedly originated in this way. He paid a glowing tribute to the benevolent purposes of horticulture, and closed by an invitation to the members of the Convention to honor him with a visit at his house on their adjournment, which the members accepted, and felt themselves, in turn, honored and gratified by the cordiality and kindness with which the General received and entertained them.

Dr. Eschleman said it was eight years since he had first experimented on the special manure theory on a Butter Pear. He took out the soil about it three feet wide and three feet deep, and filled in with a compost, in which were sulphate of iron, oxide of iron, wood-ashes, charcoal, &c., five cart-loads in all; but fruit cracked as bad as ever. Grafted all but one limb with Bartletts, which did not crack. The ungrafted fruit cracks as bad as ever. The tree is also well protected. He did not believe that only the constitutionally weak took disease. The healthiest man was often the first in times of epidemics to take sick and die. He inclined to the belief that cracking and blight were the results of a parasitic fungus.

Mr. Harrison replied that it was, nevertheless, a fact that, as a rule, good healthy wood was more liable to be exempt from diseases arising from constitutional weakness. He instanced two orchards, near each other, of about two hundred varieties—one manured in the usual way with strong stimulating and coarse wood-producing manures, in which one-third of the fruit was badly cracked; and the other, which had inorganic manures only, and not a crack or sting was visible. He was assured by parties highly respectable, that this was a regularly marked character of the two orchards. They had both been underdrained, and both treated and managed alike, except in the single point of the system of manuring.

Mr. Saunders remarked that it was one of the most interesting discussions he had ever listened to, and clearly showed to his mind that it was essential to study the general laws of vegetable health above all; yet when trees were once weakened, he had no doubt that position and shelter would be found very beneficial.

CAUSE OF THE FAILURE OF THE GRAPE, AND THE BEST VARIETIES FOR EASTERN PENNSYLVANIA.

H. M. Thomas said that about Reading it was customary to dig trenches one and a half ft. deep and one ft. wide, into which some leather-parings and stable-manure were put. They always bore, never had rot, and but little blight or mildew.

Dr. Kessler said that, for the last thirty years, the Isabella had been the great grape of Reading. Recently they had not done so well as formerly. The leaves became hurt usually after showers which were followed by hot sun. When the leaves once got injured, he had noticed that the grapes never ripened. The only remedy he knew was to encourage suckers to throw up a new set of leaves and canes, provided the injury was prior to July or August.

Mr. Grider has twenty acres of grapes. He and another neighbor had lost heavily by rot during the past four years. Rot and mildew extended over the whole United States, and now, in the infancy, as it were, of our wine-making experiments, he would point out a remedy would be a national benefactor. In early spring he had noticed a small insect preying on the bark, which produced by its puncture, as seen when examined with a magnifying-glass, a small red spot, which successively turned purple, brown, and ultimately black, the bark splitting open in time and exposing the wood by the time the latter ripened. The insect appeared but a small midge. The rot appears in spots in his vineyard, not evidently on vines more weakened than others,—often, indeed, only on some branches of the vine, while the other branches of the same vine produce perfect fruit. In fact, the rot often seems to rise in a direct line from the ground upward, as if it was smoke from a chimney.

Mr. Fehr led a branch of a vine into a house, and it bore good fruit; all on the outside vine rotted. Thought the house avoided change of temperature about the fruit. Grapes he had always found to do much better in the shade than in the sun. His experience with vineyards near Reading dates from 1840. Had no doubt mildew was atmospheric, and that the gases of towns were unfavorable to its development. Had imported Raisins from Germany, but they were a speedy and total failure. He had now for some years grown only the Catawba and Isabella. His system of pruning varied with the strength of the vine,—left plenty of wood on strong vines. He thought mildew attacked grapes worst in June. On dewy, hazy mornings, had noticed a pale hue on the berry, and by nine o'clock next morning the mildew would be plainly discernible. He calculated he had lost as much as \$10,000 in his vineyard by rot and mildew. He spoke of the winged thrip, also, as being very destructive to the health of the vine foliage.

Mr. Saunders, by permission of the Chairman, read his essay on the subject in the last proceedings of the American Pomological Society.

Mr. Grider hoped attention would be turned to find a certain remedy. Had seen a solution of sulphur cast off mildew after it had been badly fastened on berries.

Mr. Miller, of Chester County, noticed, as a singular coincidence, that when rose-bugs were abundant about vines, there were plenty of grapes, and grapes scarce in seasons when they were absent. It had become something of a proverb in his section: "No rose-bugs, no grapes."

Mr. Fehr confirmed the observation. Used to send men to kill off rose-bugs; found his mistake, and the first year after discontinuing the war against rose-bugs made twenty-four barrels of wine. He subscribed to the doctrine "No rose-bugs, no grapes."

S. Miller, of Chester County, noticed that, invariably, grapes on trees were healthy in every respect, while they rot in the vineyard.

It was here proposed to take a vote on the five best kinds the members would recommend.

Mr. Rutter said there was so much difference of opinion at the last meeting about fruits for profit from their ease of culture or prolificness, and fruits to be grown for personal use for their superior quality alone, that he thought it would be well to vote understandingly on that subject.

Mr. S. Miller, of Lebanon, thought the Diana with him the safest from mildew. Had never seen any on Concord. Spoke well of Clinton in that respect; but had not had good Catawba or Isabella for ten years.

Mr. Fehr had tried the Rebecca, but it failed entirely in his locality.

Previous to a vote, the Chairman (Mr. Miller, *pro tem*) hoped that only those would be recommended which the members had thoroughly tested, and to mark on the ballots the names of the kinds they had tried and selected their choice from; but we did not understand that this was attended to; and it was agreed after the vote was taken, that the result should not be considered the authoritative sense of the Society. The following was the list, the order of preference being given as the list runs:—Concord, Diana, Delaware, Clinton, Isabella. Our reporter observes that these votes do not amount to much, as probably those who had grown a Concord might not have grown a Diana, as they only voted on what they had grown. Scattering votes were given for the following, and in consecutive order: Catawba, Taylor's Bullitt, Cloanthe, Ontario, Cassaday.

SMALL FRUITS.

Rev. Mr. Knox, of Pittsburgh being present, was invited to favor the meeting with his experience. For raspberries he used a Double Michigan Plough to the depth of twenty inches. Preferred the Brinckle's Orange for flavor, beauty, and productiveness, but it was rather soft for carrying to market well. It was rather tender; but his faith was in protecting all, even the hardiest. Franconia he preferred as a red. Next the Improved Black Cap. He praised it highly for profit. Does not prefer it to others himself; but for market use one must study the wants and wishes of his customers, rather than his own taste. Improved Black Cap was far superior to the common kinds. He planted them seven feet apart and three feet from each other, other kinds five feet, and three feet from each other in the row. Used stable-manure. For marketing raspberries, less than pint boxes were the best size. Objection has been made to the color, but in his market, where the Orange is known, it sells well at good prices.

Mr. Heines spoke favorably of mulching raspberries with manure.

Mr. Harrison favored tan-bark. He allowed only those canes to grow that he wished to bear fruit next year, and found wood-ashes and salt an excellent manure. Approved of the Orange and Franconia. Thought Pilate and Hornet promised well. Would send raspberries of the finer kinds to market with their stems on. Hudson River Antwerp was praised for its regular-sized berries. Col. Wilder was first-rate in the shade, but poor in the sun.

Mr. Knox prepared ground for strawberries as for raspberries. Soil had remarkable effects on the results of strawberry culture. Has had profitable strawberry crops from ground only ten inches deep. Grows them in rows two and a half feet apart, eight to fifteen inches apart in the row. Never lets any runners grow. Keeps the cultivator going till fall,—cultivator made expressly for the purpose. Lays straw along to keep the fruit from the dirt. Boys draw the straw apart for the operations of the cultivator with a hay-rake. Uses the labor of women and boys for pinching runners and the lighter labor. Has beds expressly for propagation, where runners are allowed to run. Disrunners beds last a long time without renewal. His beds are five years old, and thinks they may last five more. Spoke highly of a kind known in Pittsburgh as Baltimore Scarlet, as suiting their soil well; also of Burr's Pine and Buist's Prize. Many foreign varieties suited his locality well. Trollope's Victoria had brought one dollar per quart, and berries had measured two and a quarter inches across. Albany's defect was in having various sized berries. Sorted them before marketing. Liked small boxes, holding about one pint. Triomphe de Gand was his favorite,—thought it hard to improve on it; berries regular, usually one and three-fourths inches in diameter. His system had been objected to as expensive. Found, by the returns, it was the cheapest. Two hundred dollars could be realized with him, on his system, for every one hundred dollars spent. The average yield with him of Triomphe de Gand was three hundred bushels to the acre; of Hovey's Seedling, one

hundred. He usually set out twenty thousand plants to the acre, and one pint per plant was the minimum yield.

Mr. Harrison spoke of layering runners into small pots plunged about the plants as an excellent plan for amateurs who wish to be quite successful with valuable kinds.

Mr. Horioch, of Reading, spoke of the difficulty of raising superior seedlings. Had raised large quantities for ten years, but had only one worth anything. Fruit for marketing was his business, and he had found it profitable. Found the strawberry to do best in a loamy soil that had been in sod for two years previous. Had grown Hovey and Large Early Scarlet for some years. Found keeping soil clean and the plants well thinned paid much better than letting them run together. He dressed in the fall with two-year old cow-manure, covering leaves entirely; raked it aside somewhat in spring. Found taking off the runners had a tendency to make large fruit. Thought old plants began to fail after the third year; they then got "a calamus root," (woody stems or rhizomes). The first season of setting out grew onions and light crops between the plants; next two years they bear. Makes new beds every year for regular succession. Mulching with manure he approved of; and where water could be had to irrigate the beds while the fruit was in blossom, it paid well.

Dr. Eschleman on a small piece of ground had produced at the rate of six hundred bushels to the acre.

Mr. Gay had seen strawberries near Reading frequently averaging from four to six inches in circumference.

Dr. Eschleman remarked that a New Yorker had grown them eight inches round. In his cultivation uses a cast-steel rake. His experience favored that of Mr. Harrison and Dr. Knox in other respects.

Mr. Rutter inquired whether there was any kind that would bear so well with so little cultivation as the Albany Seedling? He thought that to those who did not make a business of growing strawberries for market, and whose other occupations rendered it necessary to have a strawberry that would take care of itself in a measure or have no strawberries at all, it was an important question.

Mr. Dingee said that with a farmer it was not always a question, whether labor would "pay" on his strawberry-bed; but whether, consistently with his regular farm duties, which called him to "make hay while the sun shines," he could often give it any labor at all. He thought a strawberry that would not suffer by a few days or weeks' neglect, had an advantage over others that would.

At this stage of the proceedings, the Report of the General Fruit Committee of the Society was called up and read by the Chairman, Mr. John Rutter, which at the conclusion was warmly applauded. It was, in the main, an elaborate essay on the Degeneracy of Fruits.

GOOSEBERRIES.

Mr. Elwood Thomas called attention to the fact that the Cluster and Houghton's Seedling, two distinct kinds, were often confounded.

Mr. Harrison repeated his experience given at the June meeting, and expressed his conviction, that with proper precautions, mildew could be easily conquered, and that the gooseberry was amongst the best of fruits.

CURRENTS.

Mr. David Miller classed them next to the grape in value, especially for wine. He preferred having a few inches of stem above ground.

Mr. Saunders had seen them trained to handsome pyramidal forms.

Mr. Knox said high cultivation was particularly necessary for the currant. The cherry was a shy bearer for two or three years. Very profuse after that. He valued it highly.

BLACKBERRY.

Mr. Saunders had known forty-eight plants to produce twelve bushels at Rahway, N. J.

Mr. Harrison observed that the fruit ripened well in the shade. A gentleman remarked that some varieties had not proved hardy with him.

Mr. Saunders said it was owing to imperfect culture that did not permit the wood to ripen.

Dr. Knox pruned the canes a little; cut off about one-third the length of both cane and lateral.

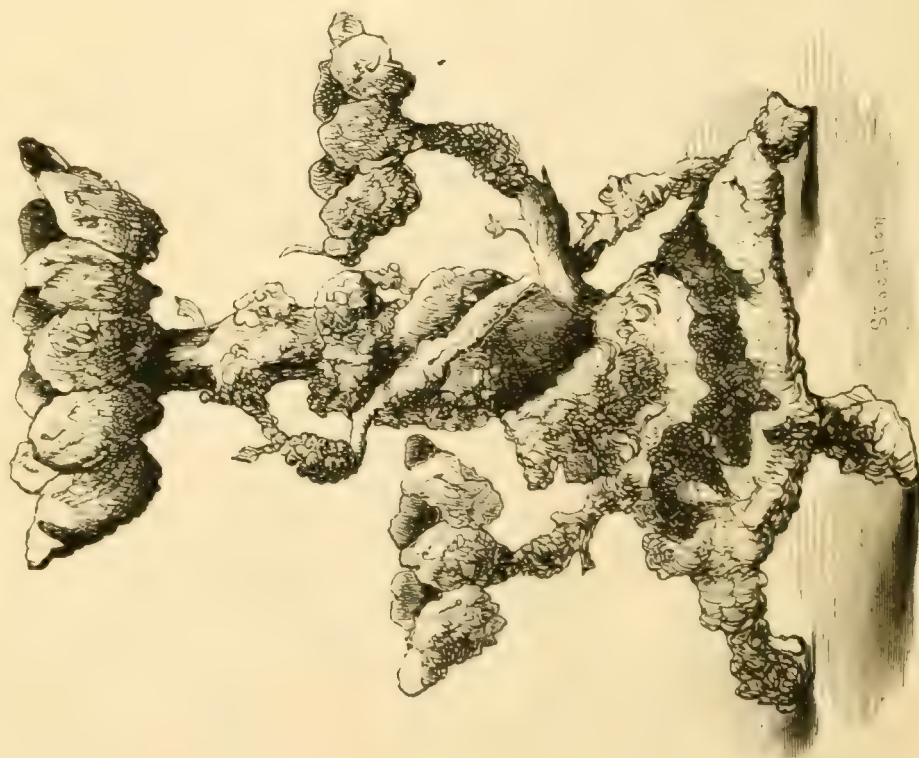
Some enquiry was made about Newman's Thornless.

Mr. Harrison said he had seen it the past season in the garden of Mr. Thomas Meehan, at Germantown, bearing very early and abundantly.

Some few remarks were made on the cranberry, and after some further routine, the Convention adjourned *ad hoc*, to meet again at the call of the Committee.

The meeting was one of the pleasantest the Society has held. It was well attended by members. "Axes to grind," that will at times exhibit their edges in all societies, were not discernible in this. Fault-finding and bickering about fine punctillios and dull platitudes, that have ruined some good societies, were absent from its councils; and but one object seemed to actuate all who participated, namely, a desire to give and to receive information.





RUSTIC ADORNMENTS.

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THOMAS MEEHAN, EDITOR.

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Hints for May.



FLOWER-GARDEN AND PLEASURE-GROUND.

ABOUT the first week in May, residents of the Middle States commence to set out their bedding plants. The modern style of planting in masses affords great scope for a tasteful arrangement of colors, either in the same bed, or by arrangement amongst a set of flower-beds. The ribbon style of flower-gardening beds in long, narrow, and winding strips and coils, is also popular for the same purpose. It requires, besides good taste in arranging colors harmoniously, judgment to select those kinds that will continue in bloom the whole season, withstanding well the summer drouth, and that will harmonize in habit and growth with one another.

Flower-gardening affords scope for many pretty fancies, besides arrangement of color, which, in the hands of a person of taste, render a garden a paradise of enchantment. Borders and edgings of ivy, periwinkle or variegated plants, may be made to appear as frames to the pictures of pretty flowers enclosed by them. Waves and fringes of green may be led along through a large flower-bed, and the various divisions formed be filled with its own color, making a natural and living bouquet; different colored gravels may be chosen for paths between beds; different shades of green be made by the selection of grasses of different hues, where grass walks are employed. Old stumps or roots may be occasionally introduced in the centre of beds, and covered with green vines, or flowering climbers, as taste may dictate; rustic baskets and vases, and even in many instances where very artificial styles prevail, the topiary art may be called in, and good effects result from the use of the knife or shears on certain plants. Much may be done with wire. We once saw a cir-

cular bed, in the centre of which was a very fine specimen of Lamarque Rose, trained on a single stem to the height of six feet, and then the head trained on an umbrella-shaped wire frame. Around the bed was a wire frame about nine inches high, slightly inclining outward, on which was *Tropæolum canariense*, and *Ipomœa clamoclit* (cypress vine crimson, white would do as well). From this frame to the umbrella head rays of wire were fastened, and the vines run up, but never allowed to get in amongst the rose branches. The bed itself was filled with *Salvia patens*, and when we saw it in September, was a mass of blue. It was difficult to conceive any thing more beautiful than the whole presented, and it reflected great credit on the taste of the lady who conceived the plan, and the skill of the gardener who had so well executed it.

The system of bedding plants has called for a new class of characters. Formerly viewed as a "florist's" flower, a verbena, for instance, would require roundness of form in the individual flower as a first requisite. The lobes of the edges of the border should seem so to overlap each other as to form a perfect circle. Then there should always be an "eye," and the colors of this eye and the margin beyond be well defined, and not run gradually into each other. But for bedding purposes, a new and striking shade of color, a free blooming character, neat habit of growth, and power to endure a hot, dry sun, are of far more importance; and the energies of our improvers should be devoted to this end. Seedling raising with this view is very interesting, and we would recommend all our amateur friends to try their hands at it. It is a highly interesting source of gratification even in itself. The way to proceed is to note some variety that approaches nearly to the desired shade, and select seed from these. The next season some flowers will be produced probably deeper, and in a few generations, by careful annual selection each time, the desired shade can be obtained. The old notion that "like produces like," is a fallacy. There is always more or less of difference in the progeny from its progenitors, though most generally so slight that we do not observe it; but a little art added to nature's own pro-

cess brings out the variations very remarkably. Where quite different characters to the original are desired, hybridization may be resorted to. For instance, we may have an excellent habit of growth, and free blooming quality, but a dull colored flower; a kind as nearly allied to the good qualities as possible, but with better colors should be selected with which to fertilize the other. Flowers should be selected for fertilization soon after they have expanded, and the one used as a fertilizer chosen when matured. The flower of the former may then have the latter shaken over it, and fertilization will probably ensue. This is a rough method. The passage of a camel-hair pencil from one flower to another is better; the pollen from the stamens of the one is more certainly carried to the other. When hybridizing is carried on with nicety, it is best entirely to remove the anthers with a pair of scissors before applying the pollen of the other kind. This lessens the chances of self-fertilization, and renders the operation either a certain failure to produce seed at all, or a different race from its parents by the seed so produced. New fruits may be produced in the same way. It was at one time supposed all these productions were mules, and though they might produce flowers in their progeny, would not produce fruit, and so the operation would not benefit the pomologist. But this is now found not to be the case. The progeny is sometimes barren, but this is rather the exception than the rule.

FRUIT GARDEN.

THE most paramount question with the fruit gardener is the destruction of insects. We have to confess to a belief that all schemes for their wholesale destruction have proved failures, and that our best hope is in their individual destruction. The different kinds of moths and flies may be entrapped by the thousand, in a persevering employment of wide mouthed bottles of sweet liquids hung about the trees. The curculio, whose most tempting allurements do not lie like moths in the way of sweet food; but in finding a nice juicy nidus for the deposit of eggs wherewith to perpetuate its species, can be slain by the hundred, by perseverance in the shaking process. A snag, made by sawing off a small branch a few inches from the main trunk of the tree, should be secured on each, on the point of which to hammer, or otherwise the bark of the tree would be irreparably injured. With a sheet spread under the tree, and a sharp, quick jar with the hammer, all the pests then on the tree may be secured and destroyed. They are rather lazily inclined, but still a few will come from your neighbor's trees; but a few jarrings occasionally will keep them down. Experience has

shown that this course, which only demands a little labor, is much more effectual than the thousand schemes that have been devised for hanging various charms about the branches, and then kneeling down and crying on Hercules for assistance.

The black knot and mildew, next to insects, prove the most troublesome opponents of lazy fruit-growers. We have no doubt that industry in experimenting and skill in scientifically arranging facts will ultimately overcome these difficulties. There are two general principles that may serve as a starting-point. First, we know that on mountain sides, where the atmosphere is damper than on plains, and the humidity more uniform, fruit crops seldom or never fail, and that in new countries where from the excess of vegetation the atmosphere is almost always saturated with moisture, fruits do well. As agriculture renders the air dryer, fruit-culture becomes more difficult; correct principles of culture will, therefore, point to the necessity of in some way providing for these deficiencies before it will be as successful as formerly.

Last season we saw some heavy crops of plums under trees that had been wrapped around with mosquito netting, thus effectually protecting the fruit from curculios. If such gauze were steeped in tan-bark before using, it would probably last a great many years in good order for use. Trees might be trained *en espalier*, on purpose to be the more readily protected in this way. It is a nice plan in many respects, as should mildew or insects attack the fruit tree, or a shade or shelter be required for any purpose, the tree is in the most perfect shape for operating on to the best advantage. This is the season to commence with young trees to put them in shape for this purpose.

Watch all young fruit trees against bearing too abundantly while young, or the first season after planting. There can be no objection to the ripening of one or two fruits on a tree the first season of setting out, in order to test the kind, or to administer to curiosity, if the tree be otherwise growing freely. If little growth is making, no fruit at all should be permitted. It is a better practice to disbud or take out soon after shooting all shoots that are needless to the perfect shape of the tree, than to wait till fall or winter. The pruning knife need then only be used to shorten a branch into where several branches are desired to push, or to induce a more vigorous growth from the pruned parts. In the gooseberry, raspberry and strawberry also, no more shoots should be suffered to grow than will be required to bear the next season.

Where water can be commanded, there is nothing so profitable as to well soak the soil about small fruits; first about the time that they have set their fruit. Much of the value of this operation, however,

will depend on the nature of the soil. The advantages are least in a tenacious, and greatest in porous soil. It is said that an animal derives most benefit from food when it is hungry before it begins to eat; it is certainly so with plants. Water applied to soil already wet is an injury; and water never has so telling an advantage on vegetation as when every leaf is about to wither up for want of it. A plant that never seems to want water is in a very doubtful condition in regard to its health.

When the strawberry crop is about to ripen, mulch with clean straw, to prevent rain soiling the fruit. Short grass from the lawn is often used; but it mildews as it decays, and detracts from the flavor of the fruit. Hot suns increase flavor, and strawberry tiles were once in fashion to put around the hills, which, by absorbing heat, added greatly to the fruit's rich quality. All that we have said of strawberries supposes them to be fruited on the hill system, with the runners kept off. Those who desire the best results, will grow them no other way.

In summer pruning or disbudding, it is also worth while to watch for shoots pushing stronger than others, and always take them out. This is the only way that shoots of equal strength can be encouraged in every part of the tree. This is particularly true of grape-vines. If a shoot once get the start of the others in strength and vigor, the others will gradually get weaker to the other's increasing luxuriance.

As to the best system of pruning grapes, there are several "schools," all contending that their views are "decidedly best." In such cases we have generally found there is much to admire in them all,—situations and peculiar circumstances deciding the point in each individual instance. There are a few points incontrovertible to insure success, and it matters little what system of pruning is followed so that they are secured. First, a healthy set of roots of the previous year's growth is essential to produce vigorous start of growth the year following. Secondly, after starting, these roots can only be kept vigorous by encouraging an abundance of healthy foliage, to be retained on the vine as long as possible. Thirdly, the leaves of the first growth are at least of double the value to the plant than those from secondary or lateral shoots; they should, therefore, be carefully guarded from injury. Fourthly, checking the strong growing-shoots strengthens the weaker ones, equalizes the flow of sap to every part of the vine, and insures regular and harmonious action between all the parts. Any system that secures this, does all that is necessary for the general health and vigor of the vine; and where some special objects are desirable, such as dwarfing, particularly early bearing, productiveness at the expense of

longevity, special means must be employed to bring them about.

VEGETABLE GARDEN.

CABBAGE, Cauliflower, and Brocoli, are now set out for fall crops, and Endive sown for winter Salad. Lettuce also for summer and fall use. This, however, must be sown in very rich soil, and in a partially shaded situation, or it will go to seed. Peas, Beans, and other crops, should be sowed every two weeks. They do much better than when a large crop is sown at one time, and then have too many on at one time to waste.

In the cultivation of garden crops, the hoe and rake should be kept continually at work. Weeds should be taken in hand before they are barely out of the seed-leaf, and one-half the usual labor of vegetable gardening will be avoided. Hoeing or earthing up of most garden crops is of immense advantage in nearly every case. One would suppose that in our hot climate flat culture would be much more beneficial; but a fair trial, say on every other row of a bed of cabbages, will show a great difference in favor of the earthed-up plants. It would be easy to explain the reason of this, but in this column we try to confine ourselves to "hints," and leave reasons to our other departments.

Communications.

LINNEUS AND LINNÆA BOREALIS.

BY L., HADDONFIELD, N. J.

SOME of our readers have at times experienced difficulty in mastering and retaining the seemingly crabbed names employed by botanists to designate plants, and it may truly be asserted that some of them are, indeed, rough, uncouth, and harsher than our

"Northern whistling, grunting guttural,
Which we're obliged to hiss and spit and sputter all."

Such names as *Schleicheria*, *Zauchneria*, *Escholtzia*, *Scheuchzeria*, &c., in my humble opinion, should not have been adopted. Not that they are difficult to retain in the memory, but because they are harsh and do not conform to the genius of the Greek and Latin languages, from which scientific terms are generally derived. Moreover, a name should convey a meaning having some bearing upon the subject, descriptive of its qualities, thus becoming an aid to the memory, and readily recalled by association.

Exception may be made in favor of naming in honor of those who have advanced the science of

botany by explorations, special study, &c.; but in this case those only who have distinguished themselves should be thus commemorated, and harsh, uncouth names rejected. Linnæus adopted this custom, and honored several of his patrons and pupils after this fashion.

Thus the *Celsia* was named after Celsius, one of his earliest benefactors. The *Kalmia*, abounding in our woods, and so well known in English gardens, but a stranger to our own, commemorated his friendship for Professor Kalm, his pupil and fellow-laborer, and who first presented this beautiful plant to his teacher.

Linnæus well observes in his "*Critica Botanica*," concerning this practice of bestowing celebrated names upon genera of plants, that a "proper connection should be observed between the habits and appearance of the plant and the name from which it has its derivation."

The *Andromeda*,* a beautiful little gem, much resembling the Heath of England, and belonging to the order *Ericacea*, and one of the best representatives of the Heath in America, may be cited in illustration. The buds are of a blood-red hue before they expand, but when fully blown the corolla is of a flesh-color.

During his Lapland tour, Linnæus found this plant in abundance, adorning the marshy ground with its delicate blossoms; and as he admired its beauties, his imaginative mind was struck by a fancied resemblance between the appearance and circumstances of this plant and the story of *Andromeda* as related by the Greek poets. "A maiden of exquisite beauty chained to a rock amid the sea, and exposed to monsters and venomous serpents. This lovely little flower," he said, "is her vegetable prototype. Scarcely any painter could so happily imitate the beauty of a fine female complexion, still less could any artificial color upon the face bear com-

parison with this lovely bloom. I find it always fixed upon some turfy hillock amid the swamps, and its roots bathed by their waters. In these marshy and solitary places toads and venomous reptiles abound; and just as in the case of *Andromeda*, Perseus comes to deliver her from her dangers, by chasing away her foes, so does the summer, like another Perseus, arrive, and, drying up the waters that inundate the plant, chase away all her aquatic enemies, and then she carries her head (the capsule), which before had drooped pensively, erect, and displays her beauties to the sun." Pleased with the idea, he chose for this flower, which is the type of a new genus in the system he was arranging, the name *Andromeda*.

Other illustrations of the application of this canon of Linnæus may be found in the *Scheuchzeria*, a grassy Alpine plant, named from the two Scheuchzers, one of whom excelled in the knowledge of Alpine plants, and the other in that of grasses. Also in the *Hernandia*, an American plant, named after Hernandez, a naturalist sent out to Mexico by Philip II. of Spain, and said to have been given to the plant, which has large leaves and small flowers, in allusion to the great opportunities afforded to the naturalist and the little use he made of them.

And, again, the *Buffonia* received its name in honor of the celebrated Count de Buffon, while one of its species was called the Slender-leaved *Buffonia* by Linnæus on account of the slender pretensions to botanical science which that naturalist possessed!

Linnæus selected, as an emblem of himself, the *Linnæa borealis*, (so named by Gronovius), which he describes as "a little Northern plant, flowering early, depressed, abject, and long overlooked;" and then traces a resemblance between this flower and his own early lot. Like it, unfolding in a remote northern region, without the gifts of fortune or the means of cultivating his natural powers, he was long unknown and overlooked. Indigent and obscure, he pursued in secret his scientific researches, exploring the recesses of nature, tracking her footsteps to her remotest retreats. Mountain and glen, forest and moor, alike yielded up their treasures to the ardent inquirer, who came forth, after a season, enriched by the spoils he had collected, and which, arranged in a new and beauteous order, he presented to the surprise and delight of kindred minds in every region. Then, indeed, his resemblance to the humble flower of his choice ceased, and men of science in every civilized country pressed forward to avail themselves of his discoveries and share in his pursuits, and the clouds that had gathered around his youth were dissipated, while for the last forty years of his life he saw himself surrounded by the honors

* *Andromeda hypnioides* (the Moss-like *Andromeda*), probably the species known to Linnæus, as it abounds in the elevated regions of Lapland, is also found in the Alpine summits of the White Mountains. It is one of the smallest and most delicate of shrubs, a tree in miniature, and bearing a resemblance to some of the Mosses.

A species of *Andromeda* (the *Mariana*) is very common on the sandy roadsides in New Jersey, near Philadelphia, and on similar soils south to Florida, is a most beautiful object. It is a shrub from two to three feet high, much resembling the Whortleberry bush. In June and July it hangs out its clusters of white waxen bells in profusion. Its common name "Staggerbush" will recall it to many who do not recognize its Linnæan appellation.

The Linnæan genus *Andromeda* contained a large number of species, but it has been broken up by David Don and other botanists; and the genera *Cassiope*, *Cassandra*, *Zonobia*, *Leucothoe*, *Lyonia*, *Pieris*, &c., all named from ancient fables or history, not one of which has been so happily chosen as that first applied, and under which they are still described by some botanists and known in gardens.

and emoluments his country and his king had bestowed upon him, and enjoyed the chosen delights



[LINNÆA BOREALIS.]

of his heart amid a host of pupils who honored and loved him as their friend, the instructor and then benefactor.

After he attained the Chair of Botany at Upsal, he continued in an uninterrupted career, teaching his favorite science in the halls where he had himself been a pupil, and which he had so often entered with childish awe. Under his rule the fame of the University extended over Europe, and even to America, and at one time while Linnæus was Rector, in 1759, it numbered fifteen hundred students!

[To be continued.]

THE VERBENA DISEASE—"BLACK RUST."

BY PETER HENDERSON, JERSEY CITY, N. J.

I KNOW not whether you have this disease amongst you to the extent we have it here or not; if not you may congratulate yourselves, as with us it is one of the least subduable of ills that plant-kind is heir to. To our notion, it is a comparatively "new disease," as the doctors would say, never having observed it

before 1856, although it may have been in existence much longer.

According to our present observations, it appears to be a species of mildew, affecting the Verbena, Heliotrope, Lantana, and plants of similar kinds, and from probably the same cause as our ordinary mildew—sudden change of temperature. We are led to this belief from having observed, repeatedly, that a bed of Verbenas in vigorous growth, after sustaining a smart frost in October, in two or three days after began to show signs of the "rust" on exposed shoots, while shoots covered up by the foliage, and thus slightly protected, were perfectly free for some time longer.

If we are correct in this, prudence will teach us, that instead of leaving the propagation of varieties for the next year until the coming of frost, our stock of cuttings should be secured in advance of that time. I have pursued this method for the past two seasons, and I may say here, scarcely had a diseased subject in my collection of upwards of fifty thousand Verbenas.

In corroboration of this theory, I may state the fact, that after I had secured all the cuttings I wanted from my own varieties last fall, I got six or eight sorts from a neighbor nearly six weeks later, about the middle of November,—they seemed to have no indication of the disease at the time, but in a few weeks it developed itself to such an extent that all had to be thrown out; while my own, struck about the first of October, and grown under the same circumstances, were entirely free from it. Moreover, my friend, getting a lot of cuttings from me at the same time I got his, lost every plant from the disease.

But it is not enough to secure the cuttings before the approach of the disease; it is equally imperative, we think, to maintain a uniformity of temperature in the greenhouse to prevent its attacks there, and this, we think, should be as low as possible—merely above freezing—giving abundance of air in mild weather. I doubt much if a great deal of this trouble is not traceable to the keeping of too high a temperature in the greenhouse, thus giving them a tendency to draw, to counteract which air is given, which harshly playing upon the tender succulent shoots, impedes the flow of the sap and the "Black Mildew" or "Rust" follows.

I do not advance these views, Mr. Editor, as entirely correct, but they are such as my observations have forced upon me. I should much like to see the matter referred to by others of your readers. It is a subject of more than ordinary importance, not only to the admirers of this beautiful tribe, but to the commercial florists, three-fourths of whom for the last two seasons have had their stock more or less injured.

ENGLISH BLACK RASPBERRY.

BY L. S. MOTE, MILTON, OHIO.

I FIND in the *Gardener's Monthly*, vol. 2., No. 7, page 218, the following notice of the "*English Black Raspberry*."—"This is a hybrid between the Blackberry and the Raspberry, and is the parent of *all the black autumnal-bearing varieties*, although itself a summer bearer, etc." "As this notice appears to have been taken from the *Collage Gardener*, it will do to say it is the parent of *all the European autumn-bearing varieties*, perhaps; but America has many *natives of her own* which produce autumnal crops, amongst which is the "*Ohio Everbearing*," and, although closely resembling in many particulars the "*Common Black Cap*" or thimble berry, is nevertheless *superior* to it. The berry is larger, softer, and more luscious, and as I do not find any notice of it in the *Monthly*, I will give Downing's description.

"*Ohio Everbearing*."—This is a native of Ohio, and was first made known to Eastern cultivators by Mr. Longworth, of Cincinnati, though we believe it had been cultivated for some time previous, at a Quaker settlement in Ohio. It is precisely like the American Black Raspberry or Black Cap, in all respects, except that it has the valuable property of bearing abundant crops of *fine fruit* till late in the season. We have seen a quart gathered from a single plant on the 11th day of November, &c." I have cultivated it for the past thirteen years, and think I ought to know something of its merits, and that Downing needs a little emendation as I have given above, in regard to the *size* and *quality* of the berry, &c. I can fully endorse what he says of its autumn production, and deserving to be in every *large garden*, (and I would say in every small one too.) I have raised a good many *seedlings* from this kind, nearly all of which show this peculiar trait of "*autumn bearing*." Some of these I think are superior to the parent. I had the curiosity to count the berries on a *small* one that fruited last autumn for the first time, which was as follows: ripe berries on it, 22; berries not quite ripe, 82; part red, 66; green berries, 35. Total, 205; besides five other branches budding and in bloom. I have one (a yearling, a cross with "*Rivers*,") that bore *red berries*. If it proves hardy, it will be a great acquisition. I also have a number of other seedlings from various kinds, that will fruit the coming summer, and if I get *one good* one from them I shall feel paid. I think we need a *hardy, good flavored, autumn-bearing Red Raspberry*. Health permitting, I propose to continue my efforts in the production of such a one. At the same time, I am not neglecting in the *same line*, the Apple, Pear, Cherry, Peach, Grape, Gooseberry, Strawberry, &c.

[There are a great many erroneous statements

flying about as facts, yet so apparently plausible that that they cannot be contradicted. We generally strive to work all these matters into our columns of "*Domestic and Foreign Intelligence*," for the express purpose of calling attention to them. In the present instance we have long held the opinion that it is altogether a mistake, that this *English Black Raspberry* is a hybrid from the Blackberry, or that Mr. Rivers found it in a hedge in Essex, England. Our *opinion* is that it is a form of *Rubus occidentalis*, or wild American Raspberry, that has got into cultivation in England, and all trace of its history lost.—Ed.]

PROPAGATING BOX.

BY T. H. HUNTER, LANCASTER, OHIO.

I HAVE often heard it remarked by persons who have propagated the Rose, that the Hybrid Perpetual class could not be rooted from cuttings in the winter, but that all the other classes could be. I think this is a mistaken idea; I have succeeded in propagating them equally as well as either the Bourbon or Bengal roses, which with me are the most certain to root. I put in the first week of December last, one hundred cuttings of the *Souvenir de Leveson Gower*, and on examining them to day, I find that all but six of them have rooted exceedingly well. My course of treatment is this:—I have a bed containing 4 inches of clean washed sand; the bottom is bored full of 2 inch holes, over which is spread straw, to prevent the sand from falling through. The pipe which conducts the hot water through my greenhouse is completely boxed up, under the bed, which affords a strong bottom-heat, and I have sash over the cuttings which confines the heat that arises from the sand. I keep the cuttings moist by watering with clear rain water, at about 70° temperature. The glass must be kept closely, only occasionally raising them to give air.

I have not only succeeded in rooting Roses in this way, but a great many varieties of hard-wooded plants. It may, perhaps, be an old plan, but to me it is entirely a new one,—I have never seen it used, but only adopted it, after experimenting in various ways, in rooting plants from cuttings.

[This plan is in successful use by some other propagators, but will be new to the many for whom we write. We are obliged to our correspondent, and to all who furnish us with details of any practice new or old, that they find eminently successful.—Ed.]

WEATHER AT NEW LONDON.

BY H. R. CHITTY, CONNECTICUT.

FEBRUARY 8th we had the most sudden and severe change of temperature that I ever (with one excep-

tion), experienced in America. The morning was fine and mild, with a gentle south-west breeze, which increased to a gale, with threatening rain at noon. At 1 P. M. the thermometer stood at 42°, about which time we had a heavy shower, which lasted but a few minutes. At 3 P. M. it began to rain again, but was immediately seconded by a heavy snow squall, which lasted about two hours, up to 5 P. M.; the rain had been from the south-west, but when the snow began, it suddenly turned from that point to south, north-west, north and north-east; from the last point, however, it only blew a short time, but went back to north-west, from whence it blew all night—so hard that a man could scarcely make headway against it. About 5 P. M. it snowed harder I think for a short time than I had ever saw it before, but at 5½ the sky was perfectly clear, and the thermometer at 14°; at 10 P. M. it was at zero. At about 5 this morning it was 20° below zero. And at noon to day it stood at zero. The decrease of temperature was 42 degrees in 9 hours, or 62 degrees in 16 hours. Had so severe a change with such a wind, taken place at night, the consequences must have been disastrous. The exception I refer to, was, I think, about February 20th, 1856. I was with Mr. Buist, of Philadelphia, at the time. We then had a decrease of about 50 degrees in 8 hours; it was a severe time, and you, doubtless remember something of it.

[We had a specimen of the same kind here in Philadelphia. The thermometer, however, sinking to but 6° below zero. Very great damage, however, has been done to the tenderer evergreens. *Euonymus japonica*, *Deodars*, *Cedar of Lebanon*, are more injured than we have ever seen before. The winter in England has been equally disastrous on evergreens.—Ed.]

REMARKS ON THE CULTURE OF DENDROBIUM NOBILE.

BY W. GREY, ALBANY, N. Y.

THE cultivation of Orchids in a mixed collection of stove plants is not attended with as much difficulty as many growers suppose. Where the house is kept in the winter months at 65° by night and 75° by day, advancing the heat in the spring, almost any Orchid may be grown. In the stove where I stand the Orchids, the side shelf is covered with lead, and filled with gravel, and the part over the boiler filled with water to about the level of the gravel, on which I place those plants that are in a growing state, and the evaporation caused by the heat from the boiler produces a nice moist growing heat, which *Dendrobiums* seem to delight in, and without the least injury

to other plants. Not to occupy more space with preliminary remarks, I will try to explain in as few words as possible, our mode of growing *Dendrobium nobile*.

Season of Growth, &c.—To grow the *Dendrobium* with success, it is necessary to become acquainted with its native climate. It is a native of India, where it is found growing on trees over streams and moist places, the streams drying up in the hot season, when the plants cease growing and rest, and as the season becomes cooler with occasional showers, they produce their flowers, and as the season advances make their growth.

The house I rest the plants in I keep the thermometer from 50° to 65°, and when I want a plant for bloom in May, I keep the plant in the heath house. I introduce plants into the stove as I wish a succession of bloom, and have no difficulty in having plants in bloom from November to May. When I wish to have as many flowers as possible on a plant at one time, I keep it in the stove and do not rest it; when not rested, they seldom show many flowers, and by having the growth of a well-established plant for two seasons, from three to five hundred may be had at one time. Our largest specimen has had seven hundred and twenty-two flowers the two last seasons. The plants start into growth as the flowers fade, which is a good time to propagate by dividing the plants. The young shoots or bulbs that start from the old bulbs I take off when well rooted. I also cut the old flower-bulbs into lengths, and lay them on wet moss, in a pan or saucer, and cover with glass, and place on the hot-water pipes, where they break freely. As they grow, take them off and pot, keep in a close frame until established. To get an old plant to break freely, it is necessary to cut with a thin sharp knife between the bulbs just as the flowers fade. This causes many shoots to start that would lie dormant if otherwise left alone.

Potting.—This should be done as the plants start growing. The material I use is fibrous peat, and sphagnum moss,—potsherds, and charcoal, for drainage, and grow in pots or rustic baskets. I give preference to hard wood maple for baskets, which does not produce fungus when decaying. When potting, I place a small pot inverted over the hole of the large one, and fill up with potsherds to the height of the small one, cover the crocks with sphagnum, and fill with pieces of fibrous peat, charcoal, and sphagnum, having it as porous as possible. I raise the soil in the centre about an inch above the rim of the pot, on which I spread the roots carefully, and steady the plant with a stick; then cover the roots to about an inch from the crown. In removing a large plant into a basket, I place a small basket in the centre,

filled with coarse pieces of charcoal. I have found the soil in baskets, when overhauling them, sour when not filled with drainage in the centre. The plant should have as much of the old soil removed as possible without injuring the roots, and raised a few inches above the top of the basket, and avoid placing soil around the crowns, as it often causes the young growth to damp off. When plants do not require repotting, it assists their growth to remove from the top the old soil, and give them a top-dressing, adding a little coarse manure.

Watering.—When the plants are at rest, very little water is required. I give water as the shoots begin to shrink. Plants that are rested in the greenhouse will want water about once in two weeks after the plants are removed into the stove to expand the flowers, I water about once a week, enough to wet the whole of the compost, as the young growth begins to show from the bottom of the bulbs. I take great care not to wet the crowns, as when the young shoots that start first damp off, the next that start seldom, if ever, make strong shoots, and when they are not from two to three feet long, the bloom will not be abundant. After the young growth have commenced to root freely, I then draw the syringe occasionally over the plants, and give abundance of water at the root until the growth is matured, when I remove the plants into the house, where I rest them and gradually withhold it as the bulbs ripen. After the growth is about half grown, I give weak liquid-manure, which is a great assistance to plants that have only been top-dressed.

In conclusion, the whole success of cultivation is to get a strong growth and give a long season of rest exposed to the sun, and it is positively necessary to look after insects that prey on the tender roots and young growth. Slugs, woodlice, and a small shell-snail are the most troublesome, which I destroy by candle-light, as they leave their places of concealment at night. Mealy bug and scale I keep off by constantly sponging the plants with cold water.

[We noticed in our March number remarkably fine specimens of this plant, grown by Mr. Grey, to which we would refer all who are interested in the above account of Mr. G.'s mode of managing it. The ease with which our correspondent has achieved success with a class of plants usually considered untractable under ordinary cultivation, will, doubtless, stimulate many others to try their hands at the enjoyment of such rare beauty.—ED.]

NOMENCLATURE OF FRUITS BEN DAVIS AND NEW YORK PIPPIN APPLE.

BY A. MATTISON, PADUCAH, KY.

ON page 85 of the March number of the *Monthly* it is said that the Ben Davis and New-York Pippin

are the same. I also believe them to be the same; but I object to the name being made Ben Davis.—The apple was known all along the Ohio river below Louisville thirty years ago,—long before it had the name of Ben Davis attached to it,—and it was always known by the name of New York Pippin. The name of Ben Davis was given to it by (if I do not mistake) Mr. J. S. Downer, of Todd County, Ky., where, he says in his catalogue, it originated.

It was known in this region for years before he ever saw it, and thousands upon thousands of people know it by the name of New York Pippin, who never did and never will hear of the name of Ben Davis. Your "works of authority" will have a hard time in changing the name of that apple in this Western country. The New York Pippin is one of the "institutions" of this part of the United States.

[It is clear that there must be some fixed rule for naming fruits, or we could never be sure when we had the proper name. The rule adopted by the great body of Pomologists and Pomological Societies, is to recognize a name as rightfully belonging to any fruit only when it is described in any work of admitted authority. A fruit may be a seedling, but it does not follow that it is, therefore, *essentially* new,—and it is the province of men learned in their respective branches of Pomology to pronounce whether it is or is not new, and rightfully claiming a distinctive name. It is this adoption of "everybody's name" that is the vice of Pomology, and is multiplying synonyms to an unbearable extent. No matter what name, or how many names a fruit may have before it is described by an acknowledged authority, the one it is so described under will be the one pomologists will adhere to. The describer will, according to pomological rules, give it the name it was popularly known by before description, "if not objectionable" we think the rule has it,—but this is but a recommendation, and not imperative on the describer, who can give it any name he pleases, and we can recognize no authority but actual description in the way stated. For instance, some ten years ago a grape was first described under the name of Delaware. It has since been shown that the grape had been known for many years before as the Ruff Grape, Derr Grape, Wine Grape, "Powell Grape," Heath Grape, French Grape, &c., but this priority of popular names gives it no claim in the sight of Pomologists to any other name than the described name Delaware.

We have entered into this subject at length, as we think it very important that it should be understood, or the nomenclature of fruits will soon become a mass of puzzling confusion.

With regard to the apples in question, we have

only to say that as Mr. Downing disclaims in our last the responsibility of the description of Ben Davis, while he does assume the description of New York Pippin, it makes of course a difference in our view of its proper name; though we cannot refrain from saying, it is unfortunate that loose descriptions from irresponsible sources should be admitted into works that we wish to uphold as the standard of authority in pomological nomenclature.—Ed.]

APPLE ORCHARDS.

BY A. MARSHALL, WEST CHESTER, PA.

If you will spare me a little space, I will give your readers my views on the culture of Apple Orchards. First subsoil the ground as deep as possible. If drained with drain tile in addition, it will be better. Even high ground will be improved by under-draining; and drain-tile is so cheap, that it costs but little. I would say here, that farmers expect too much from the ground of an apple orchard. If you want to grow apples, you must devote a piece of ground to that purpose, and grow nothing else on it. Get trees two or three years old from the graft or bud, branching out low; plant them twenty feet apart each way, which will set one hundred and nine trees to the acre. The ground should be prepared and manured the previous summer. Plant shallow. Seed down to clover with a very thin scattering of oats for the purpose of mulch. This oats crop is not to be taken off. You must make up your mind at first to take off nothing but apples, and to wait a few years for these. Mow your ground every year about the first of September and spread the mown grass over the ground. This, with the leaves from the trees, will not only keep up, but improve the soil. Keep all animals out of the enclosure. Do not permit the top branches of your trees to run too high. Keep them down so that you can hand pick the fruit from a step-ladder. The annual mowing will keep the ground clean. No other culture will be needed except to loosen the ground a little about the stem of the tree in the autumn and leave no harbor there for mice.

The next great question is—Will it pay? I think it will, if these conditions are complied with. One fact has been pretty well established in Eastern Pennsylvania,—that land having been cropped with wheat, corn, oats, &c., for thirty, forty or more years, will not continue to produce these crops and apples, too. If you want to grow apples, you must devote a lot of ground to that purpose. With newly-cleared ground, or in river bottoms full of vegetable matter, the case will be different.

I believe that not less than half a million dollars worth of apples have been imported into Pennsylva-

nia from the Western and Eastern States within the last year. Chester County, alone, has imported and consumed thousands of dollars worth. Why should not our farmers put this money in their own pockets?

MILDEW ON THE GRAPE.

BY F. A. BALLER, ROCHESTER, N. Y.

HAVING noticed the very interesting articles of Mr. M. B. Bateham and A. A. Mullet on the Causes of Mildew in the Grape-vine, I beg to offer my views on the same subject.

In my opinion, there are two distinct species of mildew that the grape is liable to,—one is, I think, principally caused by stagnant water at the roots, and shows itself in dirty-looking blotches on the leaves and fruit. It has a peculiar smell, resembling musty hay, and exhibiting, under the microscope, very minute toadstools with purple caps. Others forming in the substance of the leaf, knotting up from innumerable little fibres, in the same way as the common mushroom. This species I do not think is half as troublesome as the other, nor so general, yet a misapprehension may exist in regard to it that others may not think of.

In regard to the second species, it is, I think, too well known to need a description. Sufficient for it to say that it makes its appearance in a filmy substance, which rapidly spreads and destroys the tender parts of the leaves, making them appear, after a little time, as if sprinkled with hot water.

Having occasion, a season or two ago, to move a few vines from a brisk growing heat to a cold frame facing north, where they were shut up close and left till the next day, what was my surprise to find them, when taken out, all spotted and covered with mildew. This set me to thinking, and subsequent experiments and close observation have enabled me, at least in my own mind, to form an opinion as to the cause of mildew generally.

In the months of July and August, when the growth of the vine is vigorous, the leaves throw off or evaporate a great deal of moisture. The weather is at the same time warm, and possibly dry. Suddenly we get a heavy fall of rain, followed, as rain generally is, by a lowering of the temperature, accompanied by a cold, moist atmosphere. This at once checks evaporation from the leaves. The roots being somewhat removed, do not feel the effects of the sudden change for a time, but continue to take up moisture, which the leaves cannot possibly get rid of. This state of things is followed by a rupturing of the tender vessels of the leaves, when mildew immediately sets in. Bright weather is apt to aggravate the complaint,—at least for a few days, till

some of the moisture in the soil has passed away.

I could cite a number of instances in support of these views, but am afraid to trespass on valuable space. One instance I will give, however, that must answer for all I have under my care,—a house built almost entirely for growing hardy American grape-vines. It is two hundred feet in length, and not provided with any bottom ventilation, except from doors at each end. Last season this house was filled with vines in pots. The first week in August, when they were growing vigorously, we had rain, followed by cloudy weather; and as previous treatment of these vines had been for a continuance of fine weather, (by flooding the house with water in the morning, as well as copious syringing overhead, often watering morning and evening,) I looked, not without some anxiety, for the appearance of mildew, and was not disappointed in examining some of the plants which stood closest together. We immediately built a strong fire, raised all ventilators and doors, besides raising the fumes of sulphur in every part of the house, withholding water both at the root and leaf, till all danger was past. By such measures we overcame the difficulty, though not without considerable trouble.

I cannot but fall in with many of the views expressed in the before-mentioned articles, such as distance of planting, thorough drainage, circulation of air and elevation, by which last you secure a warmer, drier, a more even, and above all, a moving atmosphere, as well as freedom from frosts for at least two weeks longer than your valley neighbors, by which means you secure riper and firmer wood.

HINTS FOR THE IMPROVEMENT OF HORTICULTURAL SOCIETIES.

THE Pennsylvania Horticultural Society has, in common with most of the older ones in the States, declined in usefulness for some years back. The more active members of this Society are, however, desirous to re-elevate it to its former pinnacle of popularity, and recently appointed a committee to examine the subject, with the view of founding a new era of success on the report.

We are indebted to the kindness of the chairman, Mr. W. Saunders, for the opportunity of publishing it from the manuscript; and as we deem the excellent suggestions it contains likely to benefit other societies situated as this is, our readers will thank us for laying it before them.

To the President and Members of the

Pennsylvania Horticultural Society:

The committee appointed to investigate the history of the Society, and discover, if possible, the cause

of its decline, as well as its inefficiency, and suggest measures for its future improvement, beg to submit the following report:—

The objects of the Society, as set forth in the act of its incorporation, are “for the purpose of promoting and encouraging horticulture, by improving the growth of vegetables, plants, trees, fruits, and flowers, and of introducing into our country new varieties and species.”

In pursuing their investigations into the early history of the Society, your committee have been highly interested in tracing its rise and rapid progress of usefulness and success. During the first eight or ten years of its existence the records are rather meagre; but it is due to our late Secretary, Mr. James, to mention his name in connection with the fact, that for the past twenty years the minutes of the society contain a vast amount of horticultural information, such as the introduction of new plants, vegetables and fruits, which if collated and presented in a detailed and comprehensive form, would be of much value to those members who are not familiar with its theory, as well as forming a useful reference for the future management of the Society.

From the records it appears that one great object has been to endeavor to enlist the attention of the public, and in order to accomplish this very desirable and necessary object, public exhibitions of the products of the greenhouse, garden, and orchard, were early established; and still further, to enhance attractive displays, premiums were offered for the encouragement of exhibitors, and as an incentive to higher excellence in their productions. Towards carrying out these views, the Society has disbursed from twenty to twenty-five thousand dollars in premiums, and the result has been, that for a period of twenty years these exhibitions annually gained in notoriety, until they formed an attractive display, which for magnificence in the quantity, quality and variety of the productions, has never been excelled, indeed, never been equalled, by any similar institution in America.

These exhibitions, however, can only be looked upon as auxiliary to the fulfilment of the aims of the Society. It is a well established fact, that in order to ensure public attention, one of the most effective modes consists in making appeals of an attractive character. If properly conducted, public exhibitions with such attractions as horticulture, floriculture and pomology can command, seldom fail in enlisting that recognition and support contemplated by their originators, and up to a certain point, are of vast service in popularizing and disseminating a taste for gardening. But there must necessarily be a certain degree of sameness in the general features of these displays,

which tires by repetition, and they gradually lose the esteem of the mere sight-seer, and even those who have become more or less enthusiastic in their admiration of the purposes and objects of the Society, become indifferent when they discover that it fails to afford sufficient food for their increasing desires.

The *means* degenerate into the *end*, and, instead of public exhibitions being considered simply as a means of increasing the usefulness of the Society, they become the sole aim of its existence, and they are then placed on a level with other public amusements, and are left in the background when competing with more sensual exhibitions.

Your committee are of opinion that the culminating point of exhibitions has been reached; and the Society must direct its attention to other sources of attraction, and in order to meet the improved taste and keep pace with the progressive spirit of the times, must offer inducements of a more intellectual, instructive, and scientific character.

Your committee have given prominence to the exhibitions, as they have occupied so largely of the attention and means of the Society; and so long as they are self-sustaining, we consider them highly useful, but when they become a burden, it is at least evidence that some degree of modification is required in their management, and in the position they occupy in the legitimate transactions of the Society.

It may be found that the main cause of the decline of the Society has been owing to the prominence given to public exhibitions, and the concomitant evils that invariably arise where money premiums are allowed a prominent place; and we, therefore, suggest that the Society take this matter into consideration, with a view to the modification of these exhibitions, more in accordance with the purposes of its organization and the unmistakable requirements of improved cultivation.

Among the minor causes operating against the Society, may be mentioned the indifference of its members, and the want of strict adherence to its by-laws.

The unsatisfactory mode of conducting the business meetings simultaneous with public exhibitions, has also had an injurious influence upon the proper administration of the affairs of the Society.

In proceeding to suggest measures for the future guidance of the Society, your committee would remark that, in order to engage the co-operation of the public, it is necessary to keep in view the fact, that some equivalent should be rendered for the present annual contribution required for membership. When a person becomes really interested in horticultural pursuits, and attaches himself to a Horticultural Society, it is with a view to some degree of individual benefit, as well as to enjoy the

indirect advantages which such institutions are expected to confer on the community. He naturally turns to the Society for information on gardening matters, and expects to find through its proceedings a digested report of all recent improvements and discoveries connected with these subjects. We need not state that the Society has been somewhat remiss in this respect, and we are of opinion that one of the first considerations should be directed towards the publication of an annual report, which should be made as complete as the means of the Society will allow.

The Society has in its possession a valuable horticultural library, but owing to its location and other circumstances, it is not so available as its merits entitles it to be. Libraries of this kind are chiefly useful for purposes of reference, and should, therefore, be placed within the reach of all who have the privilege and desire to use them. Your committee would, therefore, in this connection, desire to express their gratification of the action of the Society in appointing a committee to endeavor to procure a room in some favorable and convenient location, in which to arrange the library, and provide for its being thrown open as frequently as possible.

Connected with the library, a reading room should be provided, where suitable periodicals might be placed for the use of members.

Your committee would strenuously urge the great advantages that would result from the introduction of conversational meetings, where horticultural and kindred subjects could be discussed, and much valuable information elicited.

We would also direct the Society's attention to the work of anticipating horticultural progress, by offering premiums with special reference to experimenting in improved modes of culture, or in any other manner to establish facts upon subjects on which information is desired.

Encouragement far more than has hitherto been extended, should be given to the production of original communications on horticultural subjects.

And in order that the Society render itself instrumental to the benefit of all who depend upon the products of the garden and orchard, we would suggest that it consider the propriety of appointing committees, and defraying their expenses, for the purpose of making thorough investigation into the maladies and diseases of vegetation, and other questions demanding close observations and collected facts for their intelligent study and solution.

Above all, let the transactions of the Society first be rendered worthy of itself, and the reasonable expectations of its friends; and secondly, let these transactions be published under competent supervi-

sion, and a copy presented to each member, thus forming an inducement to membership superior to any thing now offered by the Society.

All of which is respectfully submitted,

WILLIAM SAUNDERS,
W. L. SCHAEFFER,
J. E. MITCHELL.

THE CULTURE OF TREES FOR SHELTER TO BUILDINGS.

BY WALTER ELDER.

THE culture of trees for shelter, shade and ornament, has been in practice from time immemorial. The ancients worshipped trees as the great monarchs of vegetation; and in "Holy Writ" we find many records of the high estimation in which trees were held. The Romans have always venerated them. Indeed, civilization and arboriculture have always travelled together. Great Britain, at the present day, perhaps, holds the palm for fine cultivated trees, and large tracts of the country are sheltered by the belted parks and shady avenues. The green turf, mild climate, picturesque scenery, robust people, and improved breeds of domestic animals, are all indebted to the shelter of trees. In the fens of England and moors of Scotland, that are devoid of trees, their crops are a month later than those grown near to the leafy domains of the nobility. Indeed, the word *noble* was first prefixed to *man* for the fine specimens of trees grown upon his estate. In this country the wild animals that roam at large know the value of trees, as they dwell in the open plains during the growing season and retire to the forests for shelter in winter. We can readily imagine the miseries of a country destitute of trees, by hearing the great velocity of the winds as they sweep over the western prairies, and of the awful *simoon* upon the great African desert. Could that desert and those prairies but be clothed with trees, how different their climates and mild their changes of weather would become. When a man of wealth purchases land to make a rural home or summer retreat for himself and family, the first thing he should do after determining upon the sites of the buildings and staking them out, is to lay the foundations for leafy temples to shelter them from the north and west, by draining the land (only where it needs it) and deepening and enriching the soil by summer fallow and green crops and dressings of guano, poudrette, super-phosphate, &c., and plough them under when a foot high; the soil will be in good tilth by fall for the trees, which should be all planted by the middle of November. Belts sixty feet wide and upwards, closely planted, with a tenth of them evergreens, and a few Lombardy poplars, as they rise

high above the other trees, give beauty to the scene and look like spires of a city in the distance. If they are planted upon a level with the buildings, they will give better shelter a hundred yards off than closer; yet a few ornamental ones should be planted around the buildings, to improve the architectural beauty and attract the lightning from them in summer.

The working farmer, too, should plant trees to shelter his buildings. If he grudges to grow forest trees, then cherry and large growing apple trees, with a few evergreens, will suit. By that children can play out at all seasons, and grown people can go out and in, attending to their daily avocations without discomfort; cattle and horses can be yarded parts of the days more frequently and longer at a time, to breathe the pure air, while their stables are getting cleaned and well ventilated, which will greatly promote their health and ward off disease. But where there is no shelter from the north and the west, the difference of temperature on windy days between the inside of the stables and out doors will be too great to turn them out with safety. It is not the degree of cold itself that hurts an animal so much as the shifting winds, that carry off its heat faster than it can restore it by motion or breathing. If gentlemen and working farmers would consider the value of the health of their families and stocks, they will see that the culture of trees for shelter is the most profitable crop they can grow. The plague among cattle of late, with its losses, call loudly for shelter by trees.

One great drawback to the culture of trees, with us, is that all the spare monies are expended upon the buildings. The architect is lord and master of all, and the gardener, *poor man*, with his head stored with wisdom and knowledge, must stand back. Because he takes off his coat and toils with his hands, his wisdom is folly and his counsel set at naught; yet he is patiently awaiting the march of civilization and scientific improvement to restore him to his proper place. If ten per centum were withheld from the construction of the buildings and spent upon trees, to shelter them, it would be both the most judicious and most economical plan to give comfort and pleasure to their inmates, as well as for beautifying and enhancing the value of the whole. Who that has lived beside a forest clump, but has listened with awe, on tempestuous nights, at the fearful warfare going on between the winds and the woods? The moanings of the wild elements, as they bounced against the dauntless sons of the forest; and the creaking of their timber sounding like the cries of the wounded on a field of strife; and who that has looked on the contest in open day, but has admired the awful grandeur of God's omnipo-

tence, as gust after gust struck against the trees; the lashing and twisting of their branches and cracking of their trunks, as they tried to crouch beneath the furious blasts; and, again, their elasticity bringing them back with renewed vigor to the charge. A strong sentinel on the outposts gets a stroke and it lays him low. Think how buildings would suffer by such battering as that upon the trees and the stroke that uprooted that great tree. Often have we, when viewing the fierce strife, exclaimed: "Lord, what is man, that thou art mindful of him!"

LANDSCAPE-GARDENING.

BY R., RICHMOND, IND.

I, too, am at a loss to comprehend the true meaning of "landscape-gardening," notwithstanding the numerous able articles which have appeared in the "Monthly," and am inclined to believe, from the tenor of those articles, that it has but little relation to gardening proper, and only an artificial representation of nature, according to the taste of the constructionist, whose success depends on *cultivation*, not of the soil, but of the mind, which the poet, the painter, the architect, and the sculptor is presumed to possess,—yet at the same time enables any one of ordinary taste and judgment to distinguish a good picture from a "daub," to *imitate* it.

As it is not in our nature to admit total ignorance of a subject that so often presents itself to the reader, we will premise that we know something of it, and take the position that a man can be a landscape-gardener without being a landscape painter, poet, architect, or mathematician. And if we should assert that many sensible persons associate this subject with garden vegetables only, we trust we may not be esteemed unusually *verdant*, when we refer to the difficulty attending it.

The immortal Burns was a gardener, and prided himself on his ability to make straight corn rows; but, if I am not mistaken, straight lines must be avoided in the *landscape-garden*, in which none but the aristocratic "garden stuff" are allowed to show their heads on the undulating acres of *terra firma* that happen to be favored by nature with a "bubbling fount" which can be converted into a *jet d'eau*, thence diverted to an *aquarium*, where the *finny tribe* can gambol and "the lowing herd slake their thirst" in the shade of a *rustic bridge*, the abutments of which is constructed of "rock work" and surmounted with a statue of Downing or Bartram, and gently curving walks and devices covered with clean gravel connecting these objects with the house, the barn, the grapery, the plum, the pear, cherry, apple, and other plantations, all of which should be "grouped" separately, interspersed at respective distances with

flower borders, ornamental trees, arbors and blue grass.

Lest this view of the case should conflict with a very different opinion of others, or where the ground will not admit of all of the *objects* referred to, it might be proper to remark that good taste would exclude some of them and substitute others and include the whole vegetable kingdom or any part of it, on the principle that one class of artists selects bold romantic subjects as only worthy of their pencils, while another paints quiet pastoral scenes with equal success; the main requirements for a good picture being ease, grace and a tasteful combination of the objects introduced, all of which is available to most men who will give their attention to it when they once know the outlines. Hope you will advise us if they are contained herein.

HORTICULTURE ON THE MISSISSIPPI.

A LADY, writing from Jackson, affords us the following items of interest:

"Flowers are much cultivated in this place. We have some handsome greenhouses, some plain ones, but a great variety of plants for so new a country. We have some fine nurseries. HATCH has quite an extensive establishment near Jackson, and I think makes very large sales, and keeps his greenhouses well supplied with new and attractive plants."

A FINE BLOOM OF ROSES.

I SEND you a description of a rose, which I saw a few days since, at the hot-house of Francis Putman, florist, of this city, which I think must be one of the finest plants in this portion of the country.

Mr. Putman tells me that about three years since, he inserted two buds of the Gloire de Dijon Rose into a plant of La Marque, which he had growing in the border, each of which grew nearly twenty feet the first year, and have continued to make the same strong growth, flowering profusely at the same time, until at the present time the plant covers a space of twenty feet square, and is a perfect mass of buds and flowers. I should think that there were now at least four hundred in different stages of bloom, those fully expanded being from three to four inches in diameter, perfect in form, and very fragrant, and, what is greatly in its favor, continue a long time without decay. It is certainly one of the finest floral displays which I have ever seen, and every admirer of flowers should see this plant if they wish to know what a rose is.

[No name accompanied the above, but as it bears the semblance of probability, we pass it. The writer's name, in matters of fact, should always be sent for our own private satisfaction.—Ed.]

GRAPES AND CATERPILLARS.

BY A. MARSHALL, WEST CHESTER, PA.

LAST spring, when my Catawba Grape-vines had thrown out shoots to the length of eight or ten inches, I observed that on several of the shoots the tender leaves at the extreme end were *curled*, indicating a lodgment of some insect that would be no advantage to a further development of the vine. I pinched them all off with the thumb and finger, and burned them. This I attended to for several days. I usually pinched off the top of the shoot, so as to get below the affected leaf or leaves.

In the summer when the leaves of my neighbor's vines were eaten up with a little brown caterpillar, mine were entirely free from them. Some of your readers may profit by this fact.

COLD PITS.

BY R. M. CONCKLIN, COLD SPRING HARBOR, N. Y.

LAST winter I built a small house, somewhat on the plan suggested by Schuylkill, only it was sunk five feet deep and walled on the sides with stone. The front roofing of glass, on the fixed plan, and back, or north side, of tongued and grooved boards, made tight, with small moveable contrivances for letting air circulate. Although left in a very imperfect state, when the cold came on, the thermometer sometimes at five or six degrees below zero, without any artificial heat, orange trees and plants of a similar character have wintered there without material damage from frost. This I attribute in a good degree to the depth of the pit. Now, as it seems to be conceded in some of our editorials on this subject that the effect of high fires in plant houses is often very injurious, why may not this be obviated by sinking the house lower in the earth? Would there be any serious objection to that course? In regard to heat, a double advantage would be derived—exclusion of cold and accession of heat, from the higher temperature of the earth beneath. To be sure, it would cause some waste room by the shade of the wall; yet, perhaps, that might be suitable for some purposes.

The house I built was thirty feet long by eleven wide, roofed so as to require sash bars about eight feet long, composed of common soft pine, one inch thick by three inches wide. The entire glazed front, including work and materials, did not exceed twenty dollars in cost. Now as the expense of roofing with glass is so trifling, why not double the process, and thus render it unnecessary to keep so much drying heat in the flues? The intermediate space between the roofing, it seems to me, would almost render the building impervious to cold. If you could give some

light on the foregoing points, it would confer a favor on one of your readers, if not many others.

The communication of William Bright on the subject of renewing grape vines has been read with deep interest. His theory of fruiting only half the length of the rafter has for several years been a growing conviction, until it has driven me to adopt it, as much as possible, in open air culture of the native varieties.

[Such pits are excellent for preserving full-grown plants,—or, as gardeners would say, store-pits. For plants required to be kept growing through the winter, experience proves them unsuitable. Plants do not grow as well in sunk pits as when in houses built entirely on the surface of the ground.—Ed.]

HELIOTROPE FOR WINTER BLOOM.

BY AN AMATEUR, PHILADELPHIA.

I FREQUENTLY hear persons complain that they get but little bloom from their heliotrope during the winter, and as I have had very fair success with mine, I offer you my experience, although some of your readers may be able to give you a better mode of culture.

In the first place, I would remark that the older and more woody the plants are the more bloom they will generally afford, and, therefore, the plants kept for winter bloom must be from three to four years old before they are of much service. I will, therefore, commence with the cuttings. They should be struck early in the spring, in the greenhouses, and gradually inured to the air, or "hardened off," as it is technically called by gardeners, by planting out time, which is after all fear of frost is over.

They should be planted out in a bed of deep rich soil, and encouraged to grow by frequent waterings in dry weather and occasionally with manure-water. By fall they will be good stocky plants. Choose a damp, cloudy day, the latter part of September, for lifting and potting them, and when potted place them in a close, damp greenhouse, shaded from the sun. If the shoots are long and "leggy," give the plants a severe pruning. If you do not care for the bloom the first winter, keep them cool and rather dry. In the spring, say the middle of May, turn them out of the pots into a rich border and give them plenty of water, as before directed. Continue the same treatment for three years, in all, and your plants will by the third fall have attained a large size, and of a shrubby, woody habit. Take them up very carefully the last of August, and put them in large pots or in wooden tubs or boxes; place them in the shade for a few days to recover, and then prune off the straggling shoots and clean off the dead leaves. Water

plentifully, occasionally with manure-water, and keep them close and warm for a month or so, then gradually diminish the water and heat and by the first to the middle of December they will commence blooming and furnish you with a profusion of flowers during the whole winter. I have seen plants grown in this way that completely filled with their roots a tub larger in diameter than a flour-barrel, with tops four feet across and nearly five feet high. One such plant will give you as much bloom as you will probably want.

I have also grown plants, with the main stem trimmed up to four or five feet high, and then allowed to form an umbrella-shaped head, by training on a wire hook. The stems of some of these plants were three-fourths of an inch in diameter, and completely hard and woody, and with plenty of bloom.

Bear in mind, that too much heat and moisture keeps the plants growing, while a check will almost invariably throw the plant into bloom. Be careful in fumigating the greenhouse always to put the plants down on the floor or take them out entirely, or the foliage will be very much injured. I have thus given you *my* experience, but hope some of our commercial gardeners, who grow flowers for bouquets, will give us their experience with this very desirable plant. I will merely add, that I have seldom seen the heliotrope do well in house or window culture. To bloom it well a greenhouse is almost indispensable.

ALL ABOUT COOKING POTATOES.—We take the following from the *Home Monthly*:

Potatoes Fried with Fish.—Take cold fish and cold potatoes. Pick all the bones from the former, and mash the fish and the potatoes together. Form into rolls, and fry with lard until the outsides are brown and crisp. For this purpose, the drier kinds of fish, such as cod, hake, &c., are preferable. Turbot, soles, eels, &c., are not so good. This is an economical and excellent relish.

Potato Cheese-Cakes.—One pound of mashed potatoes, quarter of a pound of sugar and butter, and four eggs, to be well mixed together; bake them in patty-pans, having first lined them with puff paste.

Potato Colcanon.—Boil potatoes and greens and spinach separately. Mash the potatoes; squeeze the greens dry, chop them quite fine, and mix them with the potatoes, with a little butter, pepper, and salt. Put into mould, buttering it well first; let it stand in a hot oven for ten minutes.

Potatoes Roasted under Meat.—Half boil large potatoes; drain the water; put them into an earthen

dish, or small tin pan, under meat roasting before the fire; baste them with the dripping. Turn them to brown on all sides, send up in a separate dish.

Potato-Balls Ragout.—Add to a pound of potatoes a quarter of a pound of grated ham, or some sweet herbs, or chopped parsley, an onion or eschalot, salt, pepper, and a little grated nutmeg and other spice, with the yolk of a couple of eggs; then dress as *potatoes escaloped*

Potato Snow.—Pick out the whitest potatoes, put them on in cold water; when they begin to crack, strain and put them in a clean stewpan before the fire till they are quite dry, and fall to pieces; rub them through a wire sieve on the dish they are to be sent up in, and do not disturb them afterwards.

Potatoes Fried Whole.—When nearly boiled enough, put them into a stewpan with a bit of butter, or some clean beef-drippings; shake them about often to prevent burning, till they are brown and crisp; drain them from the fat. It will be an improvement if they are floured and dipped into the yolk of an egg, and then rolled in finely-sifted bread-crumbs.

Potatoes Escaloped.—Mash potatoes in the usual way; then butter some nice clean scallop shells, patty-pans, or tea-cups or saucers; put in your potatoes; make them smooth at the top; cross a knife over them; strew a few fine bread-crumbs on them; sprinkle them with a paste-brush with a few drops of melted butter, and set them in a Dutch oven. When nicely browned on the top, take them carefully out of the shells, and brown on the other side. Cold potatoes may be warmed up this way.

Potato Scones.—Mash boiled potatoes till they are quite smooth, adding a little salt; then knead out the flour or barleymeal to the thickness required; toast on the griddle, pricking them with a fork to prevent them blistering. When eaten with fresh or salt butter, they are equal to crumpets—even superior—and very nutritious.

NEW APPLE—The Missouri Janet.—The following is a correct description: Size above medium; yellowish white; nearly covered and striped with red, with bright red cheek on exposed side; flesh compact, tender, juicy, with a very rich sub-acid flavor; tree very healthy; a fair grower, and most abundant bearer, keeps until May and June.

As a market fruit it is said to be first-rate, not excepting the Rome Beauty or Smith's Cider. It is superior to either in quality of fruit, being much richer and more highly flavored, and leaves them very far behind as a long keeper. Its fruitfulness and hardness of tree is also said to be good.

The Gardener's Monthly.

PHILADELPHIA, MAY 1, 1861.

✍ All Communications for the Editor should be addressed, "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

✍ Persons sending two new Subscribers for 1861 in addition to their own, with \$3.00 can receive a copy of our First Volume, (1859) free. All persons who have paid their subscriptions for 1861 by sending two new Subscribers and \$2.00 can receive a copy of the same.

✍ Our Subscription list for Rathvon's Entomological Essay is fast filling up, and as we have only intended publishing a limited number, we would desire all those who may wish to have the work, to send their name and address as early as possible.

BENEFITS OF DROUTH-UNDER-DRAINING.

To cultivate a closer acquaintance between science and practice, has been a cherished aim of the *Gardener's Monthly*. The "mere plodder" and the "book gardener" could aid each other materially if they would but know each other better. We hope this exclusiveness has had its day, and as the sun of progress warms up our better natures, each class will see how dependent it mutually is on the good offices of the other.

For want of this disposition to travel closely together, we have been great losers. To-day we learn as scientific truth, what to-morrow we are taught is an error,—and which error it is obvious a very little more acquaintance with practical men and practical results, would have saved us the time lost, besides the annoyance of unlearning. Time is too valuable to be wasted unnecessarily.

"Could a man be secure
That his days would endure
As of old for a thousand years,
What things might he know!
What deeds might he do!
And all without hurry or care."

But as we have but a brief tenure of existence, it is wise that as little as possible of our three-score and ten should be spent in this retrograde knowledge.

As an instance of this want of sympathy between scientific teaching and practical observation, we quote the following from the address of a distinguished agricultural chemist to the students of his class. He is dwelling on the many boons his branch of science has conferred on the farmer. He says:

"Agricultural chemistry has further revealed to you, that the drouth, when the earth is parched and vegetation dwarfed and withered by the heat, is only an affliction for the present, a blessing in disguise

for the future,—that 'the early and the latter rain' may produce at once abundant crops, but dry weather is needed to bring to the surface from the depths of the earth food for the future harvest; that as the drouth continues, the water from the subsoil keeps bringing to the surface the salts of lime, or of magnesia, or of potash, that it holds in solution. Thus we are taught to see in the drouth, one of nature's ordinances for keeping up the fertility of the soil." If this "revelation of agricultural chemistry" is not apocryphal, underdraining is a great mistake.

It is claimed for underdraining that it makes the ground cool and moist in summer, and this is insisted on as one of its greatest benefits,—and that it does render the ground cool and moist under the most trying heats, we all know. But according to the quoted doctrine, this is an evil, rather than a blessing, and we must believe that if we would add to the fertility of our soil, we should favor the earth's becoming as dry and as parched as possible. And then, again, if drouth could "bring soluble salts to the surface," underdraining would have the same power to carry them away,—and the result would be that the more perfectly a soil were underdrained, and the passage of water facilitated through it, the more easily would the soil be depleted of its valuable salts, which, "held in solution" by each shower of rain, would pass away through the drains to waste.

But those who have underdrained tell us they have experienced no such losses. Though the operation has rendered their grounds moist and cool in summer, it is highly productive; and instead of the salts disappearing "in solution" after each rain-storm through the drains, the elements of fertility in the soil is rather increased, and we have no choice left but to decide between infidelity to this so-called "revelation," or a belief in the rationalism of facts and figures.

We choose the latter, and with all due respect for high chemical authority, would make bold to inquire whether drouth really brings "salts to the surface?" Whether even the mere presence of salts themselves in the soil is any test of its fertility? and whether the benefits known to follow the operation of drouth, is not owing to very different laws than our "authority" supposed?

The laws of vegetable life play an important part in all questions connected with the fertility of the soil. As with science and practice, so with life and death; they mutually aid each other. Indeed, without death there can be no life.

All vegetation is founded on decay. The living plant is but old matter in process of reconstruction,—matter set free by decay, and which decomposition has resolved into its original elements. Out of the des-

elate ruins of the past, is the beautiful temple of life built up. "That which thou sowest is not quickened unless it die,"—even the seed must be sacrificed to afford life to its germ.

And all this is as true of the inorganic as of the organic world. Decomposition must act on the mineral, as well as the animal or vegetable, matters in the soil, before they become available for the nutrition of a living plant, and the great agent in this work of destruction is the oxygen of the atmosphere.

The elements of fertility may abound in the soil, but unless oxygen has free scope to enter in and amongst them on its disintegrating and destroying duties, the soil will not be fertile, nor will the husbandman reap his due reward.

And thus it is that drouth is followed by beneficial results—not for the reason "revealed to us by agricultural chemistry" according to our author, but solely because it affords oxygen its only chance of penetrating deeply in underdrained soil. Where water escapes, air will enter, and of course the deeper drouth dries the soil, the deeper in the same proportion does oxygen descend to its destructive offices.

This is beautifully illustrated after every heavy summer thunder-shower. If we go out immediately after the rain is over, and before the little pools have had time to soak away, we shall find air-bubbles rising through them in every direction, by the weight of water pressing into the air spaces, and driving out the gaseous contents of the soil. If the surface of the ground has been rendered hard by traffic, the air will often be forced from many small ducts into one main channel, made, perhaps, by a worm or insect, out of which it can be seen to jet like a mimic volcano. When a boy, the writer has often amused himself by placing light feathers over these columns of air, which in some cases would rise to an inch or more in height. This is nature's method of ventilating the soil,—the way she effects a continuous circulation. As the water enters, the air, deprived of its oxygen in the service of plant life, is driven out; and then, as the water slowly evaporates, the pure air of the atmosphere follows, becomes in time exhausted, and is again driven out by the next summer shower, and so continues a beautiful and perpetual revolution and restoration.

If our view of the beneficial effects of drouth is the true one, it affords "aid and comfort" to the advocates of underdraining rather than to its opponents. The thorough aeration of the soil enters largely into a correct definition of the term underdraining,—and is claimed to be, as it undoubtedly is, the most useful part of the operation. Nature aerates by the slow process of evaporation, and the crops are often sac-

rificed in the drouth to nature's wants,—but man, by underdraining, aerates by method and system, continually and without risk; fears not the drouth, and yet reaps all its advantages.

REVISION OF THE AMERICAN POMOLOGICAL SOCIETY'S CATALOGUE OF FRUITS.

UNDER the head of "Horticultural Societies," we publish an address that has been issued by the special committee in charge of the subject, to the numerous State and local committees of the Pomological Society.

We call attention to the matter here because we consider it one of the most important moves that the Society has ever made,—a move in the right direction, and one that will require all the aid and co-operation that the friends of Pomology, in every part of the Continent, can extend, to render it as perfect as we hope it will be.

The past efforts of the Society have very properly been directed towards collecting facts bearing on pomological knowledge. By its aid these have become so numerous as to prove bewildering for practical purposes in their present disarranged state. We may get twenty men from Connecticut who have grown a Diana and a Catawba grape, side by side, and who will tell you unanimously that the former is far superior to the latter in flavor; while twenty men in Maryland, speaking of the same grapes, tested in the same way, will as positively assert that the Catawba is certainly the best grape. Of course these are facts,—but they are facts of a limited nature, and before fruit culture can be properly dignified with the name of *Pomology*, it owes it, as a duty to itself, to classify and present such facts in a systematized and scientific manner.

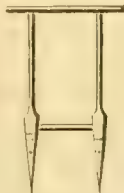
And if points respecting the adaptations of varieties to various localities are in a state of bewildering confusion, the character of the varieties themselves are still more so. We can take up scarcely a single agricultural journal, from separate localities, without finding some fruit recommended as "the best of its class," many of which we never before heard of. Fruits and descriptions of fruits are continually reaching us that we have never before seen, and if we go to compare them with any published descriptions, we find these in such a disarranged condition, that it is next to impossible to identify them. So utterly useless have these masses of descriptions become, that they are scarcely ever consulted by describers. Like lumber in a garret, they might be useful, but are not. If a fruit is said to be a seedling, and it is tolerably good, it cuts a figure in some publication, and though there may be but a

shadow of difference between it and a few score of others already in existence, it goes to swell an already unwieldy list. Why should we endure these things? Botany has its Decandolles, Endlicher, and Jussieu, who out of chaos have produced system and harmony. Their millions of facts are so classified, that once described, any one is known for ever to all who take the trouble to possess themselves of the key. Cannot Pomology have as much done for it? It is a difficult task, we know, but its accomplishment has become a necessity. Some one will achieve it, and a field is opened wherein to immortalize oneself by conferring on pomologists so great a boon.

From the eminent accomplishments of the gentlemen who are acting for the Society on this committee, we are certain that all will be done that the present state of pomological knowledge renders possible; and we hope that they will meet with such assistance and encouragement from all quarters as will stimulate them to prosecute their good work with energy and spirit.

A CHAPTER OF HINTS.

DIBLES.



WE annex a drawing of a Dibble much used in France. It makes two holes at the same time, and prevents the necessity of stretching the garden-line so often when planting in rows; the line need only be changed at every second row.

SEED-DRILL.

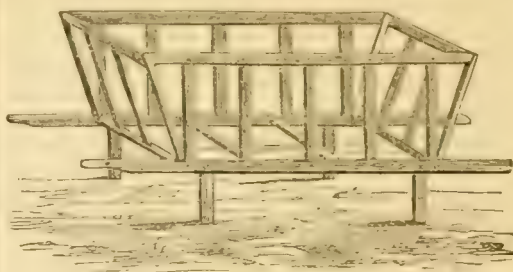
A very simple, and at the same time a very expeditious and effective mode of planting small seeds, is



to put them in a wine-bottle, with a quill inserted in

the cork, as shown in the cut. If the seeds are extremely small, and it is necessary to sow them thinly, mix the seed with dry sand before it is put in the bottle.

HAND-BARROW.



A Garden Hand-barrow of the kind represented in the cut will be found very useful on a country place for carrying leaves, weeds, &c.

GLAZING.

Rivers, at Sawbridgeworth, England, has introduced a new mode of glazing greenhouses. The sash-bar is formed with a groove down the centre of its upper surface, as shown in Fig. 1, and the glass is laid so that its side is even with the edge of this groove, and is secured by screws with strips of gum-

Fig. 1.



Fig. 3.

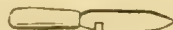
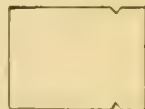


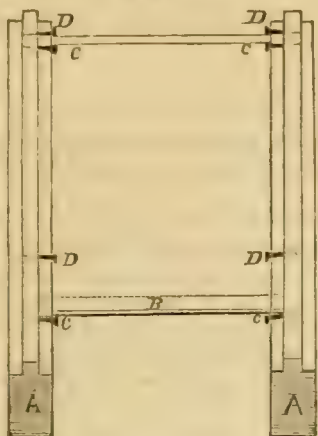
Fig. 2.



elastic or leather placed under the heads of the screws to prevent the glass from chipping or cracking. The glass, before laying, has small triangular notches cut in the side with a diamond, as shown in Fig. 2. These notches are first marked with the diamond, and then broken out with a key or a glazing-knife, with a groove cut in it, as shown in Fig. 3.

This does not strike us as any great improvement on the mode of glazing now much practiced by commercial gardeners, of laying the glass in the common-shaped sash-bars without putty, but well bedded in white-lead and secured by sprigs, so that they can neither be lifted up or slipped down, as shown in Fig. 4. *A A* are the sash-bars; *B* the laps in the panes of glass; *D D* are two sprigs, or small nails, without heads, which prevent the upper pane from being lifted up, and *C C* are two which prevent it from slipping down. These sprigs should be five-eighths of an inch long for the smaller sized glass. The glass should be well bedded in with lead ground

Fig. 4.



in oil, and when nailed should again be well coated along the sides with white-lead.

TILES FOR POTS.

A writer in the *English Cottage Gardener* recommends the use of the common horse-shoe or U-shaped earthen drain-tile for growing verbenas and other bedding-out plants in, after they are struck from cuttings. They are much cheaper, and the plants can be easily turned out into the beds in rows, with small intervals left between the rows. The tiles are kept in an upright position in the greenhouse by small stones or blocks under each end. Tile of this kind can be purchased in this country by the quantity at about one and a half cents each for 3-inch diameter, two cents for 4-inch, and six cents for 6-inch, each one thirteen inches long. The ends can be filled up with sod, moss,* stones, or blocks of wood, or they can be laid in rows side by side, and a long strip of board on edge will close the ends of the whole tier.

RUSTIC ADORNMENTS.

[SEE FRONTISPIECE.]

WE give, as a Frontispiece, sketches of rustic work of a novel character, from the pencil of Mr. B. R. Mitchell, Kingston, Mass. The work is formed out of knots and burrs formed by the agency of insects, and is what we may term making the best (and very good, too,) of our insect troubles in a peculiar way.

Much may be done by rustic work, to make gardens interesting. The only objection is, the rapidity with which it often decays. Good material, and that well varnished, will, however, remove much of this fault.

New and Rare Fruits.

THE SCHOONEMUNK GRAPE.—Mr. A. J. Caywood, of Modena, Ulster County, N. Y., writes:

In the March number of the *Gardener's Monthly*, page 82, is a notice of an exhibition at Newburg, N. Y., of the "Skunnymunk" Grape. This is incorrectly spelled, and wrongly named. The grape in question is a new variety of the *Labrusca*, and was discovered by Mr. W. A. Woodward, of Mortonville, Orange County, N. Y., who resides near the base of the Schoonemunk* Mountain, one of the highlands, about equi-distant from Newburg and West Point. Mr. W. has given much attention to the examination of the native grapes of Orange County. He pronounces this a native seedling. The vine is very hardy, produces abundantly, many of the branches weighing twenty ounces. Allow me to suggest that the name you have given to this grape should be ignored, and that it be named in honor of the discoverer, *The Woodward Grape*.

In the present state of the grape question, the introducer of a good new variety is a public benefactor.

[The name was not given by us, as we have never seen the grape. The paragraph in question was taken from some exchange, but from where, forgotten, so that we could not credit the paragraph to its original authority, as it is our usual practice to do in all matters of fact.]

MEAD'S SEEDLING GRAPE.—In our "Horticultural Societies" is a notice of a new grape exhibited before the Missouri Fruit-Growers' Society. Mr. Pettingill obligingly furnishes us with cuttings and the following account of it. If it really sprung from a lot of raisin seed, we are sorry to say that we have no faith in its permanent adaptation to our climate. Of course all seedlings from the foreign class of grapes are in flavor "superior to the Catawba;" but, although the first few years of their seedling existence finds them with a vigorous constitution, enabling them for the time being to resist mildew,—they all eventually succumb, and are abandoned. The Canadian Chief, Clara, Brinckle, and others, are familiar examples. Mr. P. says:

It is an accidental seedling of 1848, found by a Mr. Mead, Lowell, Mass., in his garden, at a place where, the Christmas preceding, some refused layer raisins had been thrown out. Cuttings, I find, do not strike easily. It is a rampant grower, very hardy

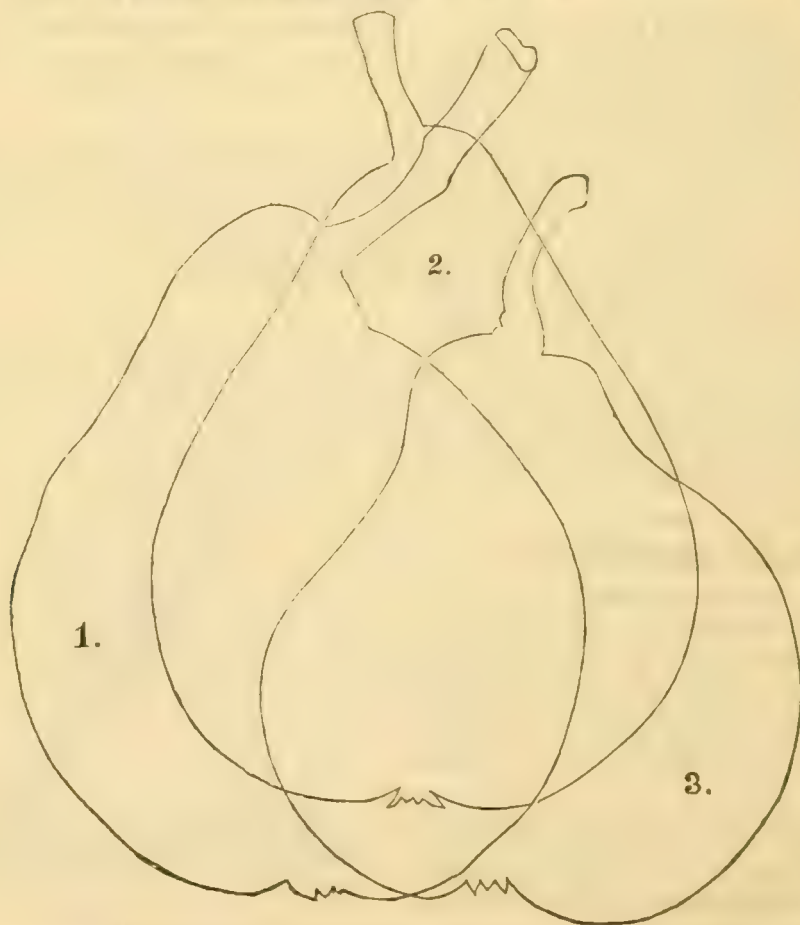
*This word is derived from the Indian word *Munk* Mountain, and Dutch word *Schoone* beautiful.

and enormous bearer, never has mildewed, and when my Isabella, Catawba and Clinton have entirely failed from rot, Mead's Seedling has escaped almost entirely. Bunches, large size, shouldered; berries, almost round, large, pale red, covered with lilac bloom when fully matured; flesh, slightly pulpy, very sweet and juicy, with rich aromatic flavor; season, middle of September.

NEW PEARS OF FINE QUALITY—By J. C. Hanchett, Syracuse, N. Y.—The name *De Solis*, given to the pear described in the March number of the *Monthly*, is erroneous, and was caused, probably, by the imperfect manner in which the name was written upon the specimen which you examined. The proper name is *De Sorlus*.

The trees of this variety have been bearing at the Syracuse Nurseries for several years, and the fruit has uniformly been large and fair, and always a favorite. The drawing does not do full justice to it either in form or size. It is larger and more regular. The deficiency in both points may be ascribed to the fact, that the specimens taken to Philadelphia were necessarily picked from the tree early in September, in order to be placed upon the tables of the American Pomological Society on the 11th of that month. As the fruit is a late one, this deprived those specimens of, at least, the best four weeks of their time for growth and development. Much fine fruit is imperfectly represented at public exhibitions every year from this necessity; not always, I regret to say, so successfully as *De Sorlus*, inasmuch as this last proves that to its other merits, may be added that of ripening to perfection even when plucked a month too soon.

I avail myself of the opportunity while making this correction, to offer you the outlines and descriptions of a few pears not yet much known, that have in quite recent years proved themselves at the Syracuse

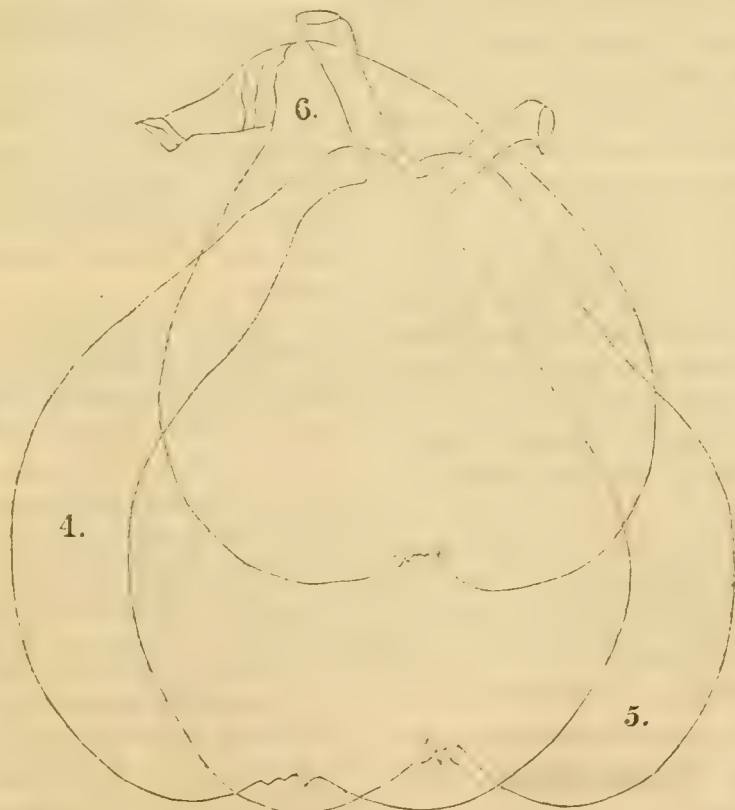


Nurseries. I shall be mistaken if longer acquaintance does not give them a high place in popular estimation; for, while the poorest are really of excellent quality, all of them are of fine size and exceeding beauty.

ANANAS D'ETE. *Fig. 1.*—Fruit, large, obtuse, pyriform, irregular; skin, fine lemon yellow, sometimes with an orange blush; stalk, an inch long, (often with an apparent joint) inserted obliquely without depression; calyx, small, closed, in a basin; flesh, firm grained, buttery, melting, sweet, and sometimes astringent, with peculiar and very agreeable flavor. In external appearance it has a very close resemblance to the Bartlett, so much so, indeed, as sometimes to deceive the most critical judges. Tree grows well on pear or quince; makes a fine pyramid, and comes early into bearing. Season, September. Almost or quite as early as the Bartlett.

COPES HEAT, (VAN MONS.) *Fig. 2.*—Fruit, large, obovate, inclining to pyriform; skin, yellow, slightly russeted around the stem; stem, half an inch long, inserted upon a fleshy one-sided prominence; calyx, open, with stiff segments, placed in a very shallow basin; flesh, white, fine grained, very juicy, buttery, melting, sufficiently acidulous to gratefully relieve its almost otherwise cloying sweetness, and delicately flavored with bergamot. I have never tasted any pear superior in my judgment to the specimens of this variety as they proved in the seasons of 1859 and 1860. Season, middle of October. I believe this to be the first description ever given of the fruit in America.

DELICES DE JODOIGNE—*Fig. 3.*—Fruit, large, medium, obtuse, pyriform, one-sided; skin, yellowish-green, covered with brown specks, and frequently having a handsome colored cheek; stem, about one inch, merged in a fleshy protuberance; calyx, large, open, in a shallow basin; flesh, white, coarse grained, crisp, very juicy, melting, and sweet, and delicately flavored with bergamot. Tree, a stalwart grower, both on pear and quince, and a prolific bearer. Its melting and sugary qualities render it an admirable pear for the oven; even as early as last of August. Season, October. Keeps well.



DE TONGRES. *Fig. 4.*—Fruit, large, pyramidal; skin, covered with cinnamon dots, and somewhat russeted in splashes, with a brilliant bronze cheek; the surface usually embossed or knobby, like the

Bartlett; stem, short, inserted obliquely, with little depression below the apex of the fruit; calyx, rather large, open, placed in a moderately broad basin; flesh, white, fine grained, abounding exceedingly in a juice, the high vinous quality of which is scarcely sufficiently modified by the saccharine, with a faint flavor of bergamot. Quite similar in character to Beurre Superfin. Tree, not a favorite with nurserymen. Season, October.

DOYENNE DE COMICE. *Fig. 5.*—Fruit, large, obtuse pyriform; skin, yellow, covered with cinnamon dots, often with a broad dark red cheek; stem, short, planted in a slight depression; calyx, small, open, deeply sunk in a broad corrugated basin; flesh, white, fine grained, very melting and rich, with an abundance of saccharine, slightly acidulated juice, barely suggesting the bergamot flavor. It is a pear of most excellent quality. Tree, a handsome free grower. Season, October, and keeps till November.

DOWNING OR DOYENNE DOWNING. *Fig. 6.*—Fruit, medium, irregular, often inclining to turbinate; skin, yellow, covered with cinnamon dots, and russeted about the base; stem, short, stout, fleshy, inserted as though the fruit were wax, and it had been deflected from a perpendicular by heat, forming thick folds where it blends indefinitely with the flesh; calyx, small, placed in a deep basin; flesh, white, fine grained, rather firm, sweet, moderately juicy, with a fine verberna flavor. Though there are many pears of a higher grade of excellence, it is by no means a particularly desirable one to let alone. Season, last of September. Tree, good on pear or quince.

APPLE REINETTE DIEL (*Van Mons*) is described in the French *Hort. Prat.*, by Bivort, and is, in many respects, a remarkable variety. The fruit is of small size, roundish, strongly flattened at both ends. Skin, orange yellow at maturity, covered with grey red projecting points, which are some of them triangular, some square, and some stellate, becoming smaller and most numerous towards the calyx. Stem, short, thick, fleshy, set straight, in a deep cavity, and of a dark grey green. Calyx, small, open, in a deep and broad basin, with calyx-divisions greenish. Flesh, fine, firm, yellowish-white, acidulated sugary, and with an exquisite aroma. It is of first quality, and in season in Belgium from December to March. The plate given with the description is strongly suggestive of the old and famous English Golden Pippin.

Books, Catalogues, &c.

EVANS' RURAL ECONOMIST is the title of a new monthly publication commenced at West Chester,

Pa., the initial number of which was issued on the first instant. It is a handsome specimen, substantial in appearance, and solid and valuable in its contents.

BARNES & WASHBURN'S Spring Catalogue of New Plants, Bedding Flowers, &c., Harrison Square, Mass. is one of the most interesting lists we have received this season. 50 pages, and well filled with novelties.

SWEET POTATO CULTURIST, by John W. Tenbrook, New York. Published by Saxton, Barker & Co.—A 25 cent pamphlet of 95 pages, detailing the practice of the most experienced cultivators throughout the Union.

SECOND ANNUAL REPORT OF THE PROCEEDINGS OF THE FRUIT-GROWERS' SOCIETY OF EASTERN PENNSYLVANIA besides an Abstract of the Debates, which have already appeared in full in the *Gardener's Monthly*, it contains the Reports of the various Committees, essays by Mr. John Rutter and Mr. L. E. Berckmans of Georgia, on the degeneracy of fruits, and by Mr. F. J. Cope on Fruit-culture.—These give the pamphlet great interest.

ANNUAL MEETING OF THE FRUIT-GROWERS' SOCIETY OF WESTERN NEW YORK. Another excellent brochure confined entirely to the discussions, and filled with matters of great interest to all fruit culturists.

TRANSACTIONS OF THE ILLINOIS STATE HORTICULTURAL SOCIETY. We have given an abstract of these transactions in our pages, and our readers will be able to judge by it of the value to Illinoisians, and Fruit-growers' of the West especially, of the reports in full. Dr. Warder and Dr. J. A. Kennicott contribute essays for the work, that add much to its usefulness.

CATALOGUES.

The spring lists of the following firms are on our table. They afford our readers a chance to learn what are in their own vicinity, before going away from home to buy. We are happy to say that since we took occasion to note in one of our earliest volumes, our regret at the inaccurate way in which most of our catalogues were brought out, a marked improvement has resulted; till now a list of misspelled names is quite an exception,—and we feel proud in the fact, that no country in the world can show so creditable an amount of intelligence amongst the body of nurserymen, as a whole, as their catalogues show our country to possess.

TREES, FRUITS, AND ORNAMENTALS.

John Dick, Kingsessing, Pa.; Plants. Uri Manly, Marshall, Ills. D. R. Tyler, Warren, Mass. T. L. Shields, Pittsburg, Pa. E. C. Worcester, Thetford, Vt. Spooner & Co., Jamaica Plain, Mass. W. Reid, Elizabethtown, N. J. A. Mattison, Paducah

Ky. Richard Bliss, Springfield, Mass. Andrew Wiggin, Stratham, N. H. J. W. Manning, Reading, Mass. Miller, Swan & Layton, Springfield, Ohio.

SPECIAL AND MISCELLANEOUS.

Archibald Stone, Binghampton N. Y.; Wild Evergreens. D. R. Tyler, Warren, Mass.; Flower Seeds. A. D. Merrill, Melrose, we suppose Mass.; Grapes. Thos. G. Ward, Washington; Roses.—Lenk, Hansen, & Co., Toledo, O.; Seeds. John F. Weber, Hammondsport, N. Y.; Wine and Grapes, H. A. Dreer, Phila.; Roses, &c. James. Edgerton, Barnesville, O. J. L. Stelzig, & Co., Columbus, O.; Grapes. E. Marshall, Po'keepsie, N. Y.; Small Fruits. D. R. Good, Altoona, Pa.; Wild Evergreens. Dexter Snow, Chicopee, Mass.; Verbenas.

CLASS BOOK OF BOTANY. Being outlines of the structure, physiology, and classifications of plants, with a flora of the United States and Canada. By Alphonso Wood, A. M. New York: Published by A. S. Barnes & Burr, 1861.

This is a new edition of a work first issued in 1845, and now well known and appreciated.

Its distinguishing character lies in presenting a treatise on all the branches of American Botany, in one work. Such a plan must, of necessity, demand brevity in the treatment of details,—but in an elementary work this is not a great objection; indeed, it may be classed as a merit in such a work. A clear conception of the mere "outlines" of the sciences is more readily obtained, when considered independently of minutiae that go to make up its perfection.

The first part treats of Structural Botany, describing the nature and character of the various organs of plants. The second enters into the Physiology of vegetation, or plants in a state of growth. The third part, Systematic Botany,—and the fourth Descriptive Botany, in which the Flora of the United States east of the Rocky Mountains is fully described.

It is a source of gratification to us as horticulturists to feel that there is a growing taste for such works, and that publishers feel warranted in so free an issue of them from the press, as the past year or two has exhibited. There is no surer method of heightening the pleasure which horticulture affords when the taste for it is indulged for purely mental and physical recreation, than to have a clear perception of the scientific principles, on which the varied operations depend,—and to him who has merely a commercial interest in its pursuit, the allied sciences, and especially Botany, is of immense importance. And to professional gardeners,—those who look for-

ward to the elevation of their class to distinguished social position, as a body of intelligent and intellectual men, and as men worthy of honor and of substantial reward for their services, the natural sciences have strong claims on their regard.

Mr. Wood's work is accomplished in a very easy and clear style, free, in a great measure, from the technicalities that are popularly supposed to render science "dry," and calculated to lead the mind easily and pleasantly to the desired accomplishment. We cordially recommend it as an excellent work for beginners.

There are some blemishes which we very much regret. It is not up to the times in the physiological department, and the old system of Endlicher, is adopted without the modern improvements of Lindley, Gray, and others, by which to arrange the plants described. Loose expressions and thoughtless maxims are taught which a slight consideration would show to be erroneous, and which, in a work destined to be placed in the hands of the young, is unfortunate. We are told for instance that the "witch" (twitch?) grass can only be eradicated by being torn to pieces "by the spade of the angry gardener," though we are sure, if he would lay aside his "anger," and go at the job with determined coolness and judgment, he would get along much better. We are also told that the leaf "is the type or idea from which the Divine architect derived the form of every other appendage of the plant," which seems strange to religious minds. It certainly is a most original idea that Divine intelligence should, like mortal beings, require crude material out of which, to "derive an idea." Mr. Wood further teaches that the insoluble coat of resin on the buds of the English Horse Chestnut, is an "illustration of designing wisdom," to preserve the buds in wintry climates. But as the American Horse Chestnut in a severer climate has no gum, or very little, we may reasonably doubt whether this is the real use of the gum, and object to such questionable doctrines appearing in a strictly scientific work.

Equally bad is the typographical execution of the work. "Salanum," for Solanum; Camillia, for Camellia; Gronvoii, for Gronovii; Acetocella for Acetosella; Crotallaria, for Crotalaria; Accaulescent," "Mallic acid," &c., all through the work. Sometimes a plant is called *Diclytra canadensis* in one place, and *Dicentra canadensis* in another, and similar incongruities, that must tend to confuse the beginners for whom the work is intended. We point out these blemishes in all kindness, that, in another edition, they may be removed and render perfect a truly useful and valuable work.

Straps and Queries.

Communications for this department must reach the Editor on or before the 10th of the month.

The Editor cannot answer letters for this department privately.

HISTORY OF THE IMPROVED PANSY—Mrs. C. B. S.—We are unable to give you a history of the Improved Pansy, though you are right in supposing it to date from quite a recent period. If our memory serve us properly, we were taught that the first Pansy, much removed in beauty above the common wild form, was introduced into England from Holland by Lee, the Hammersmith nurseryman, famous for bringing the Fuchsia and other popular plants into notice, about the year 1812. This was a purple, and considered the first of its color, and had an "immense run" of favor with the public. From then till 1850 most of the improvements were in form and color. Coming down to our own day we can speak more positively. In 1834, Thomson, of Edmonton, raised one with a "cat's eye," and at once those with a central eye became the types of good Pansies and "all the rage." Thomson, emboldened by success, persevered, and in addition to peculiar colors, produced varieties of immense size, one of them, we remember, Queen Victoria, was over two inches across—pretty good for that day.



There has not been much improvement in size and form since 1850, but new styles and colors are being constantly introduced. In 1836 the first bronze pansy, then called "Phosphorus," was raised, we do not remember by whom, but, we think, by

Thomson, also. About 1850 the German florists took hold of this class, and for a while "bronze pansies" were pushed, until they had their "rise, progress and decline" in public estimation. Recently the French have tried their hand, and the result is "mottled" pansies of exquisite beauty.

The above is a cut of one we find in the London *Gardener's Chronicle*, but it will give but a faint idea of the rainbow-colored hues, which they present. We have seen them in this country the two past seasons, particularly fine at Hoopes & Bros., of the West Chester (Pa.) Nurseries, and at other places. There is yet room for improvement in the form and texture of the petals, and we have no doubt they will be more popular than either the German or English improvements heretofore made.

We have done the best we can for our fair correspondent, from the unwritten history of the Pansy. We are sure there must be heads that have grown greyer in the service of Flora than we have, that could render a better account, and we hope to receive sketches from them, not only of this, but of other popular florists' flowers.

GRAPE MILDEW.—Like the grape-pruning question, we are getting too many articles on the mildew subject, that we fear we shall have no room to publish. Those which contain *facts* and *observations*, we shall make room for from time to time, but we would suggest to our friends to save us from the pain of rejecting long communications of ill-reasoned and crude, hastily-formed opinions. There is no greater mistake to be avoided than to take coincidences for causes. Thus, one writer "knows decidedly" that dry air prevents mildew, because he saw a few on a hill-top that were quite healthy; while another knows decidedly that moist air prevents it, because he saw "some splendid wild vines, models of health and vigor, in swamps in New Jersey." It seems to us much like the old Sultan's reasoning

"Who knew the world was square,
Because he'd journeyed fifty miles and found
No sign that it was circular anywhere."

The following, from "Life in the Backwoods," will help to explain our meaning:—

"A few days ago I was called to a house, on a professional visit, where the inmates have a holy horror of 'calamy and laudamy.' While making my way into the good graces of the mother, by fondling upon my knee a certain breechless brat, I noticed a number of small bones attached to a string and worn by the child as a necklace. Knowing the strange belief in charms that such people sometimes have, I immediately remarked:

"I see your child, madam, has had rheumatism."

"No, sir," says the worthy dame, "them thar are rattlesnake bones, put thar to make Pete have a easy time a cuttin' his teeth. Last spring, when the boys was a plowin' down in the bottom, they plowed up a powerful big rattlesnake, and I jest tuck him and biled him three days and nights, beginnin' on Friday mornin'. I tuck the bones then and put 'em on a string, as you see thar, and made him wear 'em till now. I recon, doctor, he was about as sick a chile as you ever seed when them bones was put on his neck, he begun to git better right off, and nuver has bin sick from that day till now."

"NOTHING NEW UNDER THE SUN."—A correspondent writes:—"In a recent number you remarked that even the views of Mr. Darwin, supposed to be so audaciously novel, had been successfully claimed by another English writer, as having been published by him some years before. In looking over an early number of the *Gardener's Magazine*, (Vol. 4,) I find the following, from the pen of Mr. Loudon, which throws back still further the originality of the views. It is not at all impossible that old Gerarde, the "Herbalist," of three hundred years ago, may have given expression to similar views, if one would only take the trouble to search for them. I thought the reference might interest you in your views about *nothing new*, and as the correspondents say, you 'can use it for what it is worth.' The following is the extract:—

"Nature is constantly producing new genera and species, as is in a great measure warranted by the productions of our gardens."

GRAPE-PRUNING—J. I. W., *Jackson, Mich.*—"I do not, after all that is written, know at last what is the most approved plan of grape-pruning—whether the short cane, as Bright says, or otherwise—and I would like something reliable from you, or some such substantial source."

[It is our custom to give most of our views of the practical questions of the day, under the head of our "Monthly Hints." With regard to the short cane system of pruning, it should be remembered that it has not yet been tried very extensively, and should not be adopted without local experiment first, on a small scale. Severe pruning, and especially summer pruning, which the short cane system embraces as a part of its practice, is indisputably injurious to the grape plant—so much so, that it has also been adopted, as part of the practice, to let the vines produce only every other year. The long cane system requires less art to manage successfully, and its operation can be entrusted to less skillful hands. It may not be as productive in the long run as other

systems, but it is a more certain one for beginners, and we would advise you to adopt it. After succeeding with the old plans well, try gradually the newer improvements.—ED.]

WHALE OIL SOAP.—A correspondent asks for a receipt. A friend hands us the following:—

"Render common ley caustic, by boiling it at full strength on quick lime, then take the ley, poured off from the lime, and boil with it as much *whale oil foot* as it will *saponify*, (this is readily seen,) pour off into forms, and when cold it is tolerably hard. That sold by the manufacturers is highly adulterated with common rosin, which remains as a varnish on the trees and is detrimental. *Whale oil foot* is the sediment produced in the refining of whale oil and worth \$2 per barrel.

NURSERYMEN'S CHARGES FOR PACKING PLANTS—"Trade."—We have not space for your article on this subject, which is one we have no inclination to discuss. Besides, why not send your communication to the *Horticulturist*, where what you object to first appeared. Its editor is, we well know, at all times ready to hear "both sides of any question."

As you ask our opinion, we will frankly say, that a custom that has endured so long, and has become so universal, as charging extra for packing when plants are sold at a distance, must have had some reason for its foundation, though, like all customs, liable to abuse at times, and when it is understood between buyer and seller, at the time of sale, we do not see where the swindling charge comes in. A florist, perhaps, sells verbenas in his own vicinity for, say \$4 per hundred, and delivers them within ten miles of his place for the same price. They need no packing. They are simply loaded in his wagon, and unloaded at their destination. He sells hundreds this way, and gains a reputation for selling verbenas at \$4 per hundred. But an exceptional case occurs. Amongst the hundreds of home customers comes one from a distance, and then boxes, and labor, and skill of careful packing are called for in addition, that they may safely go a long way by rail or express. Is there any extortion in the extra charge? On the other hand, it is evident that if he found boxes and labor of packing, all for the \$4, and could afford it, the ninety-nine per cent. who needed no boxes and packing, would certainly and with good reason think they were overcharged. The nurseryman would then reduce his rates to these to perhaps \$3.75, but would it still not make the other charge an "extra 25 cents."?

We would thank our friends not to trouble us with such simple questions. Competition and the laws of trade regulate these matters better than we can.

There are other matters bearing on the science and practice of horticulture, that we can advise you better than we can on this.

STRIKING CUTTINGS—*J. M. W., Memphis, Tenn.*—"I observe some general hints in regard to striking plants in sand, with bottom heat. Can you not go a little more into detail? There is nothing in nature without a reason and a rule. Many succulent plants strike without the smallest difficulty, but the hard-wooded are more difficult. How do you strike Camellias? Where can the seed be had? Why not strike pears, peaches and apples, instead of grafting?"

["Many succulent plants strike without the smallest difficulty, but the hard-wooded are more difficult," as our correspondent says, and it is this difference in the nature of cuttings that renders it impossible to do more than give general hints for general rules of propagation. "There is nothing in nature without a reason and a rule," but the same rule and the same reason for it, that would enable us to strike a currant, would fail when applied to the apple or pear. When our correspondent asks to know how to strike Camellias, the question is definite, and we can answer that if cuttings were taken from healthy, vigorous shoots of the past season, just before new growth commences, and made into lengths of say three eyes, two-thirds of their lengths in pots or boxes of sharp sand, said pots or boxes plunged into tan, leaves, or other material that contains a bottom heat of about 65°, and the atmosphere kept so moist by shading from the sun or keeping sash close, that there is no evaporation from the cutting till it has roots to draw moisture from the soil to sustain itself, it will, in all probability, grow. Or if the cutting be taken off just as the new growth is about maturing, it will also probably grow. But all this has been learned by experience by practical propagators, and their success, in this instance, would afford them nothing but general hints—no certain rule—for proceeding with any other class of plants. The only general rule that we can offer is to heal the cut at the base as soon as possible by calousing or otherwise, in all cases where time is usually required by the cutting to produce roots, in order to aid it against decay, and to so keep the atmosphere about the cuttings that there shall be little or no evaporation from the part of the cutting above ground until time shall have been afforded for the emission of roots. All other proceedings must depend on each individual case.

Camellia seed is produced abundantly in the open air of the Southern States—in the Northern sparingly in greenhouses. Fruit trees could easily be raised from cuttings, but they would not be so good

or so cheap as seedling trees. Root-grafted trees are little more than cuttings, and the great objection to them is, that they abound with small fibrous roots and have few long and strong ones, thereby easily blowing over in a wind, especially when loaded with fruit.]

SLUGS AND SNAILS—*Miss S., Philadelphia.*—"The insects sent are what gardeners call "slugs." The best mode of destruction is to trap them. Turnips cut in half, hollowed out a little, and placed in the coolest and shadiest part of your garden, will attract them by scores, from whence they may be collected and destroyed and their numbers soon be so lessened considerably.

ANTS.—"A subscriber" writes, "I planted some choice roses, and the ants inhabit the earth around the roots and climb the rose bushes. Are they injurious to the plants? and if so, how shall I get rid of them?"

[Hot water—say about 160°, in which flower of sulphur is steeped and poured over, will cause a speedy departure with no disposition, on their part, to return. Lime-water has been said to be effectual, but this we have not seen tried.]

EGG-PLANTS—*J. A.*—Egg-plant seed should be sown on a hot-bed, in March, and encouraged to grow as strongly as possible till (in this latitude) the first week in May, when they should be transplanted to a deep, rich soil, in a warm place in the vegetable garden, set about two feet apart each way. The fruit is the part used. It is usually cut into thin strips and fried in lard, and to most tastes, is one of the most delicious vegetables, when properly cooked.

NAMES OF PLANTS—*Aubry & Souchet.*—"Your specimen is *Staphylea heterophylla*. We have no knowledge of its hardness or habits, your specimens being the first living ones we have seen, but we believe it to be a Peruvian species, and so not likely to be hardy.

NEW YORK AND BEN DAVIS APPLE—*W. M. Allen, Jeffersontown, Ky.*, writes.—As there has been much said about the identity of the New York Pippin and Ben Davis, I send you a drawing of the Ben Davis, made from a section of the apple, marked around with a pencil. I am growing the trees in the nursery under both names, and their growth and general appearance (which in both is very distinct), are precisely the same. I am also growing the Nickajack and Carolina, with several synonyms of the Nickajack, all of which are, undoubtedly, Carolina.

ARTICLES HELD OVER.—Our entomological article, an excellent one from Mr. Woodward, on curved and straight lines in landscape-gardening, and other interesting matters, are held over till next month, to allow us to bring up articles of interest that are growing stale on our lands.

Obituary.

J. E. RAUCH. BROOKLYN, N. Y.

PROBABLY there were but few persons better known in this country or in Europe, as a botanist and horticulturist, than the subject of this memoir, John E. Rauch, Esq. He was born in Bremen in the year 1818. His earliest studies were devoted to the science of medicine, with the view of becoming a practicing physician; but it being dissimilar to the taste he had acquired for the promotion of the science of botany, he abandoned his original pursuit, and made this his exclusive study and research. He came to this country in 1839, intending to make horticulture and botany his profession; but as "there is a divinity that shapes our ends," he, after a short residence here, resolved to go on a trading voyage to South America, connected with botanizing in that country. It is to be presumed that it was the latter which led him to the enterprise. He came to Brooklyn with testimonials of character, directed to some of the most distinguished persons in our city, with whom he formed valuable friendships. But notwithstanding, he could not resist the undertaking of this most unfortunate delusion, and with several confederates sailed for Mexico. While pursuing his travels in the way of trade and novelty, he was taken dangerously sick, and in consequence of his continued indisposition, his comrades left him, but provided a Mexican to take charge of him, of whom it was expected he would receive kind and timely treatment. But in this they were mistaken; for he did not prove "the good Samaritan," for he robbed him of all his money and clothes, and not content with this, would have murdered him if it had not been for the timely aid and friendship of an Indian, who devoted his entire time to produce his recovery to health, possessing some medical knowledge in the treatment of diseases that the unacclimated were subject to in that peculiar climate. He was in a short time sufficiently restored to meet his friends; but from this attack his general health had become so impaired, that he was compelled to leave and return to the home of his adoption. In 1849 he returned to his native land; but after a short visit he resolved to return. The vessel in which he sailed was shipwrecked, and he lost all the property

he had with him, including a valuable library. From these untoward incidents, more or less attendant on travellers, he concluded to commence the profession of a botanist and florist. Finding a piece of property of about four acres in this city, well suited for the propagating of most every variety of plants, he made the purchase, and occupied it until the time of his death. He had an extensive correspondence with many of the best botanists on the continent and England, and through these sources was constantly receiving the most rare and new varieties of plants. With his extensive knowledge of the science of culture, they soon assumed an appearance which made them sought after by all that desired rare and curious plants; and it was proverbial, if you want a greenhouse or stove-plant, you must go to Rauch. He was one of the first engaged in the organization of the Brooklyn Horticultural Society, and at its exhibitions his tables were always sought for. This Society has lost one of its best friends, and long will he be missed at these periodical displays. In his intercourse with society he was a gentleman of the most kind bearing, generous to a fault, and confiding to a misfortune. But God, in his wisdom, has called him from his earthly labor in the prime of life, and science has lost one of its most intelligent and distinguished advocates.

New or Rare Plants.

CUPHEA JOULLENSIS.—Under this name it now appears, according to Sir W. Hooker, the plant known as *Cuphea eminens* has been before described. The last name will now, therefore, be dropped, and our friends must be careful not to buy a new name in a plant they have already got.

CHORIZEMA.—Seedling raised by Jonathan French, Esq., from *C. Lawrenciana*, which is well known as one of the best. The seedling is superior to its parent, free grower, and very free flowerer; growth, slender; flowers, large; color, dark orange, contrasted with purplish. A splendid plant, and one which will prove particularly valuable for bouquets.—*Mr. Rand, in The Homestead.*

A NEW WINTER-BLOOMING PLANT—*Heterocentrum roseum.*—It produces thousands of beautiful rosy-pink flowers on plants grown in six-inch pots; will keep in bloom three months. The plant is of the easiest culture, and can be grown to any size in a few months. If the white variety should prove equal to the pink, they will give a new charm to bouquets in winter.

LEE'S NEW WHITE SPROUTING BROCOLI.—This new variety was brought to notice last year, as we noticed in our journal at the time.



We hardly expected it would prove a permanent variety, as it is not uncommon for brocoli to sprout more or less. But recent accounts in the foreign papers speak highly of it, and we have no doubt it will become a standard kind.

SEDUM FABARIA, var. *rubra*.—A rosy lilac-flowered kind, nearly related to the British *S. Telephium*, and a very useful autumn-flowering plant for greenhouse decoration, producing large heads of its star-shaped flowers, emulating the showiness of the well-known *Hydrangea*.

CAMPYLOBOTRYS REGALIS.—The wonderful plant spoken of by Linden, of Brussels, is in perfect health at the Rosedale Nurseries. It is a beauty in the way of variegated plants.

NEW ORNAMENTAL FOLIAGED PLANT—*Campylobotris refulgens* is said to be a plant of the most exquisitely ornamental character, vastly superior to any of the other kinds of *Campylobotris*. It was awarded a First-Class Certificate of Merit when exhibited at the Royal Botanic Gardens, Regent's Park.

SOLANUM CABILIENSIS ARGENTUM, a new variety, has three-lobed silvery leaves, yellow fruit of the size of a small apple, and blooms the first year; a very handsome ornamental shrub.

NEW VARIEGATED BEDDING PLANT—*Agatheu calcestris fol. variegatis*.—Its habit is neat and dwarf, growing from four to six inches high; it is also very close and compact; quite a gem as a bedding plant, or for the ribbon style of decoration. Its foliage is thick and superbly variegated, somewhat resembling in its marking *Vinca elegantissima* (variegata major.) Flowers bright sky blue, an inch or more across, borne well above the leaves.

CALONYCTION DIVERSIFOLIUM SULPHUREUM is a pretty yellow-flowered *convolvulaceous* plant, with a purple eye. The blossoms are represented of the size of *Convolvulus minor*.

The seed was forwarded to M. Van Houtte, of Ghent, by a cultivator of Hyeres, but of its origin we are not informed. The plants attain a height of about four feet, flowering in the open air very freely during the summer months. It will, no doubt, prove very ornamental as a climber, and appears to possess only one fault, which is that it is found to be difficult to obtain seed from it.

ÆCHMEA MELINOXIL.—An ornamental plant, of the pine-apple family, from South America. It has a bunch of rosy pink flowers, resembling, in general form and appearance, at a distance, a spike of scarlet flowered horse-chestnuts. It requires a moist hot-house to grow well.—*Bot. Mag.*

IMPATIENS WALKERI.—A Balsam from Ceylon. The flower, in shape and size, is like the wild species of American woods, but the flower is of a bright scarlet, and the plant but a foot high. Sir W. Hooker does not say, but we suppose it to be a subshrubby stove species.

NEW VARIETIES OF PYRUS, or *Cydonia japonica*, have been raised in Belgium, one with fine rose-color flowers, another pale citron-yellow flowers and a border of rose, another red, with crimson veins.

Domestic Intelligence.

ACCLIMATIZING EVERGREENS—From H. W. Sargent's Supplement to the Sixth Edition of Downing's *Landscape-Gardening*.—Our usual method of acclimatizing a plant is to select some very protected and

shady spot, as the north side of a thicket, or, what we prefer, the interior of some evergreen wood, and to prepare the holes six feet wide and three deep, with loose but poor soil, well drained, with stones for the lower eight or ten inches, with barely compost enough to assist the tree through the summer. For the first two or three years, in winter, a little mound of earth, eight or ten inches high, is put around the neck of the plant to prevent the effects of thawing and freezing in a most sensitive part, and cedar or hemlock boughs are placed round its branches, this covering diminishing year by year, as the tree obtains size and vigor, until it is omitted altogether. The plant, to insure safety, is moved once or twice within this wood, each time to a more exposed situation, which has also the additional advantage (like root-pruning) of checking all redundancy of growth.

When it exhibits sufficient strength, it is transplanted to its final situation on the lawn—its cedar covering being renewed for a couple of winters—and if it can be reconciled to the climate, it is now supposed to be so.

CERTAINLY AN IDIOT.—A writer in the *Atlantic Monthly*, says a friend's boy was one day asked by his younger brother what the word idiot meant, for somebody in the parlor had been saying that somebody else was an idiot. "Don't you know?" quoth Ben, in his sweet voice: "an idiot is a person who doesn't know an arborvitæ from a pine—he doesn't know any thing." When Ben grows up to maturity, bearing such terrible tests in his unshrinking hands, who of us will be safe?

ACTION OF DROUTH ON SOILS.—In another column we have thrown out some hints on this subject. It will, perhaps, aid an investigation of the subject to give some account of the origin of the opinion that salts rise to the surface in dry weather. We believe it was Professor Higgins who first suggested the idea. It is said he placed a solution of chloride of barium in the bottom of a glass cylinder and then filled it with dry soil. After long exposure to the rays of the sun, the surface of the soil was tested with sulphuric acid and gave a copious precipitate of sulphate of baryta. Chloride of lime, sulphate of soda and carbonate of potash were experimented upon in like manner, and upon the application of proper tests the surface of the soil showed their presence in large quantities, drawn up by the rising of the water from underneath, as in the case of drouth.

OAKS HYBRIDIZING.—Some botanists doubt whether these really do hybridize. S. B. Buckley says, in the

Country Gentleman, "The oaks are so much inclined to hybridity, that even botanists have been deceived in forming new species from mere hybrids. Col. Wade Hampton, of Columbia, told me that he planted live oak acorns in Mississippi, which grew and bore fruit, which was again planted. The trees from this planting were hybrids between the live oak and the other surrounding species. At first he thought they might be young forms of *Quercus virens*, but, although several years have elapsed, they still maintain their original hybrid form.

THE GARDEN CITY.—The *Country Gentleman* says:—

"Chicago will one day better deserve its name of 'Garden City,' but it must take time. Apropos of the derivation of this name, the Chicago Gardener's Society have appointed a visiting committee, whose duty it is to collect historical facts of our city, new plants, and so on; and they have stumbled upon the following version of its origin—thus: Mr. Brooks, the oldest of greenhouse men here, many years ago built a greenhouse; a prominent man visited it, was so struck with the beauties inside and place generally, as compared to any thing else so far west, that he said this was the 'Garden City.' Being pleasant, the news spread. If any one knows any thing why this was not so, your correspondent would be greatly interested to hear it."

LATE KEEPING APPLES.—In 1850, the following apples were on hand, in good condition, in the cellar of Mr. Peters, of Atlanta, so late as April 6th:

Shockley, East Point Greening, Nickajack, Green Crank, Richardson's Winter Seedling of 1858, Meigs, Yates, Faust, Stevenson's Winter, Chattahoochee Greening, Pulaski Seedling, Mangum (over ripe and out of season), Red Limbertwig, Tennessee Limbertwig, Yellow English Crab, Collier Apple, Pryor's Red.

Of these, he kept the Shockley, Yates, East Point Greening and Yellow Crab, until the 10th of June.—*Southern Field and Fireside*.

PICEA NOBILIS is from the auriferous regions of California, where it attains the height of two hundred feet, but has not yet been long enough in this country to perform any such gigantic achievement. Its ivy-colored dark shining green, with horizontal outspreading branches, each tier forming complete platforms round the tree, with a surface almost as level as Utrecht velvet, never fails to put the stranger into a state of amazement to contemplate such wonderful arrangement of beauty, elegance and perfection.

NEW ZEALAND SPINAGE—*Tetragonia expansa*.—

A correspondent of the *Horticulturist* reminds those fond of good summer vegetables, that this plant is not as much cultivated as it deserves to be.

SALT FOR TURNIPS.—A correspondent of the *Farmer and Gardener* finds salt greatly to aid the turnip crop in dry weather.

Foreign Intelligence.

THE PANSY.—Let the ground be well drained and well dressed with decomposed cow-dung; and if too adhesive, fork in a little sand.

Plant nine inches apart, and close the earth well about the roots.

Always take side shoots, springing from the bottom, for propagating, if you can get them. They always root freely, if not rooted when taken off.

Avoid taking hollow, pipey shoots for cuttings. To ensure striking, the bottom of the shoots, when cut up to the base of a leaf, should be solid.

Shade all cuttings, and cover close with a hand or bell-glass, whether they are in frames, boxes, pots, or the open ground.

Continue planting beds of struck cuttings, to succeed one another in flower. It is only from young plants we can get fine blooms.

Shade all blooms for exhibition. An hour's hot sun would destroy the finest flowers in the bed.

Save seed from half-a-dozen of the finest varieties you possess, planted by themselves, away from all others.

Sow as soon as you save it: in May, June, July, and August, as it may happen.

Plant them out as soon as they have four rough leaves; but press the earth to the roots every time the frost and thaw disturbs them.

In winter, if you have convenience, hoop and mat, or otherwise cover the bed—if with nothing else, with litter.

In spring, the beds of seedlings or established plants may have half an inch thickness from an old hot bed, or well decomposed cow-dung.

As fast as any seedlings bloom inferior to those you have, pull them up and throw them away.

Never wait for any particular season for taking off side shoots; take them whenever you can get them without distressing the plants.

Water seldom, but effectually; soak the whole bed to a considerable depth.

Towards October pot all cuttings that you do not want to plant out, and keep them under glass in thumb-pots.

If you bloom any in pots, use seven or eight inch

pots, with a compost of two-thirds loam from rotted turf, and one-third cow-dung, or dung from an old melon-bed.

Never save a seedling that is not better than the varieties we possess already. All novelties that are not improvements are useless.

Whenever the surface of the bed has run together solid, stir the top one or two inches, always closing the earth to the roots.

Never allow a weed to grow in the bed. A little neglect in this matter will give you a world of trouble.

Never remove a good seedling till you have propagated it a little. When you have cuttings struck, you can do as you like with it.

Never remove a plant from heavy soil to light, without washing out all the old soil from the roots.
—*Scottish Gardener.*

SLUGS AND SNAILS.—The *English Gardener's Chronicle* says:—

"We are assured that if the strings used to tie up vines in the borders are steeped in sulphate of copper, no slugs will come near them. The writer affirms that all such vermin have an incurable aversion for whatever has had this salt applied to it. Another writer, in the *Revue Horticole*, tells us that he can trap snails and slugs to any amount by another way. He left in his garden a jar containing starch saturated with iodine, with a tile loosely put over it; there it remained all the summer, fully exposed to the sun. What was his amazement at finding at the end of the first three weeks that dozens of snails had found their way into the jar from all parts of his garden. What was not less curious, the snails continued to travel to this jar all the summer long. This is supposed to have been brought about by the snails liking the smell of iodine; and it is suggested that if iodine is dissolved in water which is poured upon sawdust, or even upon the earth itself, slugs and snails will enjoy themselves in it, and thus be trapped. Does iodine act then like valerian and dittany of crete on cats?"

EVERLASTING FLOWERS.—In one of our back numbers we gave an account of the way to dry flowers so as to preserve them in their natural forms and colors. A lady informs us that she has some permanent bouquets, which she has made by following our directions, that are the admiration of all who see them.

For those, however, who like the artificial looking "Immortelle" flowers, we annex the following list of some annual kinds:—*Acroclonium roseum*, rosy; *Ammobium alatum*, white; *Gnaphalium fœtidum*,

light yellow; *Helichrysum bracteatum*, yellow and white; *Helichrysum roseum*, rose colored; *Helichrysum aurantiacum*, orange; *Helichrysum brunneorubrum*, brownish red; *Helichrysum coccineum*, scarlet; *Helichrysum flavum*, yellow; *Helichrysum purpureum*, purple; *Helichrysum macranthum*, large flowered; *Helichrysum speciosissimum*, most showy; *Morna elegans*, yellow; *Stæhelina dubia*, pink.

HOW TO FLOWER CALLA ETHIOPICA BY CHRISTMAS.—Bring your plants to rest in midsummer, by exposing them to the full sun in a place where they are sheltered from rain. Don't water them. Middle or end of August take them out of pots; clean the root-stock from all decayed matter and from young accretions; re-pot in good, fertile soil, rather heavy, but part sandy; water and expose them to the sun in the open air. Water freely till the season compels you to house them. Take some to the warm-house; put them in a sunny place very near the glass, and they will remain compact. Getting stalky spoils their beauty. The more they got isolated in the summer, nay, the more they got wasted, the sooner will they flower in the warmhouse. Now take other plants which you housed in the greenhouse to the warmhouse and you get a constant succession of flowering plants. Carry back to the greenhouse those which have flowered, and they will flower again at the general period of vegetation in the spring. Often they will even flower a third time.

The sun not only elicits plenty of flowers, but is a most necessary agent in opening them. That accounts for stillborn flowers in sunless places.—*W. Schoenborn, in Deutsches Magazin.*

GEOTHERMAL CULTURE.—The warming of the earth, to advance early vegetables, has long been practised in limited instances. Many years ago at the royal gardens of England, near Windsor, asparagus beds were heated in the open ground by hot water. Some months ago we again introduced the subject in the *Gardener's Monthly*, and M. Naudin, of Paris, has taken up the subject, as we find in recent French papers, and proposes to reduce the whole matter to a system, under the above name, for the growth of many exotic plants that require greenhouse protection, so that our gardens may present a green tropical aspect at all seasons. His views, so far, answer with the idea of warming the soil of plant-houses, rather than the atmosphere.

LONDON NURSERYMEN.—There are over three hundred nurserymen, florists and seedsmen in the neighborhood of London.

A FRENCH "LEAF" PLANT.—Our garden rhubarb, in some parts of our country called pie-plant, is not known, or not acknowledged as an eatable dish in Europe, England excepted. On the Continent, however, it is often found on the edge of a lawn, as a specimen plant, and esteemed as a "leaf plant." It looks queer when an American meets with it there in this shape.

HOLLY TEA.—Mr. Forsyth, in the *London Gardener's Chronicle*, says all of this tribe possess the peculiar virtues and the properties of the true tea, and cannot be well distinguished in flavor. The art is in properly drying or roasting them.

Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The very severe and unexpected weather spoiled the calculations for a fine show at the March meeting. Messrs. Peter MacKenzie & Son had, however, a fine show of Camellias, embracing the following kinds, all of which were of first-class characters.

SIX CAMELLIAS IN POTS.

1. Camellia Maria Therese,
2. " General Wayne,
3. " Henri Favre,
4. " Minata,
5. " Alba imbricata,
6. " Lorelei.

FIFTEEN CUT FLOWERS.

1. Camellia Alba pleno,
2. " Mrs. Cope,
3. " Ochroleuca,
4. " Lawrenceana,
5. " Lady Home's Blush,
6. " Maria Therese,
7. " Towhee's Bush,
8. " Landrethii,
9. " Alba imbricata,
10. " Myrtiloba,
11. " Imbricata,
12. " Dumbags White,
13. " Al-xina,
14. " Minata,
15. " Reine de Fleurs.

MISSOURI FRUIT-GROWERS' ASSOCIATION.

The members of this Association convened at Pomological Hall, on the Fair Grounds, yesterday, at 1 o'clock, P. M., and were called to order by Norman J. Colman, President of the Society.

On motion, Dr. L. D. Morse, of Alton, was elected Secretary. Mr. Husman, of Herman, exhibited specimens of wine from the Norton's Virginia Seedling, and Herbemout grapes. A committee was appointed to test the wines exhibited, and reported that the Herbemout was a very delicious wine, and worthy of very high commendation; and that the Norton's Virginia wine, combining the flavor of the Port and Burgundy, being a red, sound, table wine, and the grape being free from rot, is likely to create an important extension in wine manufacture.

Mr. Pettingill, of Bunker Hill, Ill., exhibited a seedling grape called Mead's Seedling, which was highly commended by the Society as a table grape—taking the preference over the Catawba as a table grape.

Mr. C. H. Haven exhibited a delicious white grape received from Lockport, N. Y., said to be hardy. It was recommended as being worthy of trial, and the Secretary was instructed to obtain a history of its origin, &c.

A good deal of discussion was had upon the merits of the different varieties of grapes. A number of distinguished horticulturists were present and contributed to the interest of the meeting. The Presidents of the Cincinnati Horticultural Society and the Illinois Horticultural Society were in attendance.

The Society will meet again to-day at 1 o'clock, A. M., when the subject of grape-growing will be again considered.

AMERICAN POMOLOGICAL SOCIETY.

A NEW CATALOGUE OF FRUITS.

A Special Committee was appointed, to whom the various Local Committees are to make their report during the year 1861; and this Special Committee are charged with the duty of compiling from the Local Catalogues, prepared by the various Local or State Committees, and from the present Catalogue of the Society, full lists of all the fruits therein named, properly classified and arranged, with due regard to nomenclature and terminology, and are to submit the same at the next biennial session of the Society for its consideration and action. The Special Committee are as follows:

P. Barry, Chairman.
J. S. Cabel,
L. E. Berckmans,
J. A. Warder,
Chas. Downing,
William Read,
Marshall P. Wilder, Pres. *Ex-Officio*.

The Special Committee has just issued a circular to the Local Committees, containing the following instruction:

"It is our duty to request you, as Chairman in your State, to organize your Committee and enter upon the work of preparing your Catalogue at once, so that it may be transmitted to us sometime during the ensuing year, 1861, as provided in the resolution. In preparing your Report or Catalogue, you will please observe that the arrangement of the present Catalogue of the Society is to be followed as closely as possible, giving—

1st. A list of varieties suitable for general cultivation in your State, or such other region or district of country as your Committee represents.

2d. A list of such new or newly-introduced varieties as promise well.

3d. A list of such as are known to be valuable for special purposes,—as for marketing, or for particular soils and localities only.

It is the design and aim of the Society to make its Catalogue so comprehensive and accurate that it may become the standard of American Pomology; hence, it is important that Committees exercise the greatest care in preparing their lists, accepting such information only as they know to be perfectly reliable. It will be understood that no varieties are to be classed for 'General Cultivation' within any State or locality, upon brief or partial experiment, but must be generally and successfully cultivated for a considerable period of time. In the case of those classed for particular localities or purposes, the nature of these particulars should in all cases be given, if possible."

ST. LOUIS VINE AND FRUIT-GROWERS' ASSOCIATION.

The accompanying statement of the objects of the St. Louis Vine and Fruit-Growers' Association may be of interest to you, partaking, as it does, as much of a public and geographical nature as of a private character. The locality selected is in St. Louis County, thirty miles west of the city, and between the Pacific Railroad and Missouri River, where they are but nine miles apart. The plantations of the company all stretch from one to the other with appropriate drives. These, as well as the hills and valleys through which they pass, will, in due season, be hung with the purple and golden fruits of the latitude, and yourself, Mr. Editor, and all like you, animated by a love for horticulture, whether as visitors or seekers after homes in Missouri—the future "Central Flower-land" of the Union, will ever be welcome to the grounds of the Association, which you will find sacredly held as a fair specimen only of tens of thousands of other localities like it throughout the State.

Respectfully yours,

C. H. HAVEN.

BOTANICAL SOCIETY OF CANADA.

In your number for this month, (March), page 91, you have made a great mistake in reporting that the Botanical Society of Canada was established in *Montreal*, and owes its origin to Dr. Lawton.

You should have said that the inauguration of the Botanical Society was in Kingston, C. W., and not *Montreal*, and owes its origin to Professor Lawson, Ph. D. No doubt you will cause this correction to be made in your next issue. For further particulars as to its formation and objects, I beg to refer you to a printed statement, which I forward by mail this day.

Since its formation, very interesting and numerous attended meetings have been held monthly, and its progress is very satisfactory. I believe the members now number over three hundred.

THOMAS BRIGGS, JR.
Kingston, C. W.

[We should be favored by receiving reports of its proceedings from time to time.—ED.]





Dytiscus imbricatus



Necrophorus Americanus



Staphylinus villosus



Coccinella novemnotata



Hypodamia 13 maculata



Pedunculus nativus



Helorus atrata



Mydarchus apicatus



Zemylus maculipennis



Panorpa maculata



THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

JUNE, 1861.

VOL. III.---NO 6

Hints for June.



FLOWER-GARDEN AND PLEASURE-GROUND.

THE management and care of the lawn is of first importance. It is to the lawn more than to any other part that we owe the highest pleasures of gardening. It is the distinguishing feature between nature and art. With a lawn neglected, the finest garden is little more than a beautiful natural scene; but when the grass is well cared for, it is stamped with the highest refinement of art. Through our past two volumes much has been written upon the subject, and we refer to these articles now because the season has arrived to put them in practice. Weeds should be constantly taken out by hand labor. Any holes thus made filled up with soil; but holes need scarcely be made if weeds are taken out in a proper manner. Mowing should be done as often as the scythe or mowing-machine will "bite" the grass, and frequent rollings after heavy showers, are excellent.

Next to the lawn, the walks are the most striking feature of a well kept garden. Weeds should be taken in time, and the labor of keeping them down will be very slight. The edges or "verges" should be trimmed at every mowing of the grass-bordering; for which purpose a common sheep-shears, or grass-edging shears, made specially for the purpose and sold at most horticultural stores, should be kept on hand. Washing by heavy rains should be guarded against; or when so injured, speedily repaired.

After the walks and lawns, the flower-beds should be a constant source of attention. If the plants appear to suffer by drouth, there is no better remedy than to place a fork around the plant and loosen up the soil deeply, without disturbing the plant more

than can be avoided. After being thus loosened, it will not dry out near as much as before. Above all, keep the surface continually broken by hoeing and raking fine. Nothing is so sure a preventive of soil drying as a loose, porous texture.

Another plan with trailing plants, such as verbenas and those usually employed in masses, is to peg them over the surface as fast as they grow. They thus shade the soil, and so far check evaporation. The best pegs for this purpose are made of any straight twigs about a quarter of an inch or less in diameter, and split in two lengthwise. These will not break when bent in the middle, as unsplit pieces will. There is a little art required even in splitting these twigs properly, so as to get them of equal thickness throughout. The edge of the knife should be watched, and when either half is splitting thinner than the other half, the back of the blade must be pressed against the thin section, which will cause the grain of the wood to run in again toward the pith. And so on, as the splitting progresses, the alternate action of the back and edge of the blade will keep the slit straight through the middle at the pith.

The watering of flower-beds in a dry time should not be done often; but when necessary, done thoroughly.

Many herbaceous plants, such as phloxes, hollyhocks, and similar plants that are scarce and valued, may be propagated now very easily by taking portions of their flower-stems before the flowers open, and inserting them as cuttings in a half-shaded, cool, and not dry situation. Layering of many things, shrubs, half-shrubby perennials, &c., should be done before the young wood becomes too hard, if good plants are required the first year. Most plants root more quickly by having a notch cut in the layered shoot. This should be done on the upper surface, as we first published at page 86 of our first volume, in order to prevent breakage of succulent shoots, as too often occurs by the methods recommended in works prior to the publication of our journal. Good, rich soil, put just about layers, is very important. *Good soil favors an abundance of roots.* One of the greatest mistakes in gardening is

the prevalent notion that plants in a poor soil have a greater proportion of roots than in a rich one.

Herbaceous plants should be staked, to keep from wind-blowing. White Pine stakes, with *their ends charred* by being slightly burned in a furnace, will last for many years,—as long, in fact, as the best painted cedar,—a good hint for bean-poles, trellises, &c.

Many parties have a difficulty in keeping trellises, when covered with a weight of vines, from becoming "top-heavy" and blowing over in a wind. This can be remedied by nailing a cross-piece to the trellis a few inches long, just above the ground, or even two pieces, making four cross-shaped arms. This will effectually prevent "swagging," no matter from what part of the compass the rudest winds may blow.

Dahlias must not be allowed to bloom too early. Keep them growing well till fall, at any cost. If they become stunted by early flowering, a few miserable sun-dried July flowers will be the poor reward.

After bulbous roots have done flowering, they should be at once taken up, carefully dried, and placed away in paper-bags till wanted next fall. If suffered to remain in the ground, the rains we get through the fall keep their activity excited, and is unfavorable to that state of rest necessary to make them bloom finely next year.

The flowers of perpetual roses should be cut off at the earliest moment after the petals wither. If suffered to produce seed, they will flower but sparingly in the fall. In budded roses, carefully watch for and take away the suckers.

FRUIT-GARDEN.

In the out-door department the directions and hints we gave last month are still applicable, especially those relating to disbudding and pinching back of strong shoots, checking the flow of sap through excessively luxuriant channels, and directing the flow through weaker ones, equalizing and striking a balance between all parts of the tree. As the weather becomes dryer, and the growth still continues, young and free-growing trees of choice varieties would be much benefitted by occasional syringings from a powerful garden engine, which should be found in all gardens with any pretension to completeness and excellence. Besides the cleanliness so conducive to health this ablutory process achieves, the moist atmosphere and check to excessive evaporation that result from this practice is one of the greatest safeguards against many bad diseases.

In the interior department, peaches that have been slightly forced will be about maturing, and the

atmosphere must be allowed to become dryer by admitting more air and using the syringe less freely. This is necessary, not only to perfect the flavor of the fruit, but to mature the wood properly for next season's fruit. All of this has to be done with caution, as a sudden change from a moist system of culture to a dry one will be certain to injure the tissue and breed disease.

Red spider and other insects closely follow on the heels of a dry atmosphere. They must be watched, and nothing suffered to injure the leaves till by natural maturity the plant has no longer use for them.

Grapes in cold vineries will now be of a size fit for thinning. In those cases where the bunches are intended to hang long on the vines, they should be thinned out more severely than those expected to be cut early. A close, compact bunch favors mildew and early decay.

Fine, rich color is always esteemed as one of the criterions whereby to judge of the excellence of a fruit. Sun-light is of first importance; but it is not generally known that this is injurious when in excess. In a dry atmosphere, with great sun-heat, where the evaporating process goes on faster than the secretive principle, what should become a rich rosy blush in a fruit is changed to a sickly yellow, and the rich jet black of a grape becomes a foxy red. Some grape-growers of eminence, in view of these facts, shade their vineries during the coloring process; but others, instead, keep the atmosphere as close and moist as possible. The latter course detracts from the flavor of the fruit. The best plan is that which combines both practices.

In summer-pruning grapes, care must be taken that the leaves from the stopped laterals do not overcrowd or smother the larger leaves of the original cane, on which all your hopes of good sound wood for next season depend. All the use for the leaves on the laterals is to afford outlets for superabundant sap, which otherwise would cause the next season's fruiting-buds to burst now. Always carefully guard the first leaves.

GREENHOUSE AND POT PLANTS.

THE great difficulty with many greenhouse and frame plants is to keep them over our summers. It is not the heat that so injuriously affects them, as the dry air they are subjected to. Hence sunk pits, canvass shades, and even glazed structures, are very useful in such cases as maintaining a more humid atmosphere about the plants. Heaths, and most Australian and New Holland plants, auriculas, pansies, calceolarias, cinerarias, and similar things belong to this class.

Sunk pits are the best, as under glass insects are

very troublesome, which trouble the heavy rains in the open air somewhat rectifies. All greenhouse plants do best set out in summer under partial shade,—not under trees where drip in heavy rain-storms injuriously harden the soil, though this is better than no shade at all,—but a shade where, with just enough protection to keep off the hottest mid-day suns, those of morning and evening can yet exert some little influence. Canvas-covered sheds, open at the sides, are the best. We gave sketches of some useful contrivances of this character in our last year's volume.

Many summer-flowering plants should be cut down soon after blooming, so as to make bushy plants and be prepared for a renewal for the next season's growth, or they grow leggy and unsightly. The pelargonium, in particular, is to be subjected to this treatment. So beautiful a plant is worthy of all the care and attention we can bestow on it; for, of the easiest culture, it is yet capable of astonishing improvement under superior management.

The following account of summer management, from the *London Journal of Horticulture*, gives such minute details, and can be applied to so many other plants, that we adopt them here entire:

"As soon as the greenhouse becomes too warm for these plants, they should be set out of doors on a bed of coal-ashes, and a shelter contrived for them to keep off the heavy rains. Rather less water should be given, and the syringe hung up in the tool-house, so far as these specimens are concerned; in fact, they do not need it now at all. The grand point to aim at is to get the wood well ripened. It should by the end of July be hard, firm, and woody, and of a dark shining brown color. The leaves should begin to turn yellow, and the older ones drop off; in fact, it is the autumn with the pelargonium. As soon as this state of rest is attained, then set the plants out of doors fully exposed to the sun, and in a short time they will be ready for the operation of

PRUNING.

This is an important point, requiring considerable thought and judgment. They should be pruned at two or three seasons. For blooming early, get the plants into the proper condition of ripeness early in August, prune a second lot a month later, and the last the first week in October. As soon as the plants are ready, cut them in according to their strength, and the form you intend them to take the following season. Weak plants should be cut in pretty close to one bud, stronger may have three buds, and very strong ones four or five buds each, and let each shoot when cut be at equal distances from the adjoining ones. When pruned, remove the plants into a frame set on bricks, so as to admit

Fig. 1.

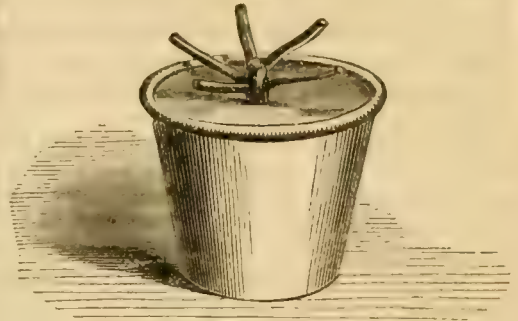


Fig. 1.—One year old Pelargonium, pruned in autumn, and five shoots left to branch out the following year.

Fig. 2.

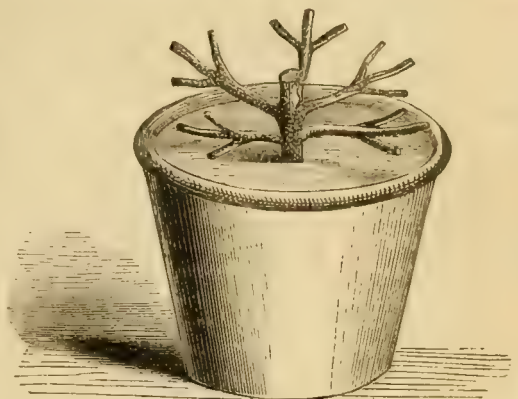


Fig. 2.—Two year old Pelargonium, pruned in autumn, and fifteen shoots left to branch out the following year.

air amongst the pots. Keep the glass on day and night; but shade from hot sun, and give no water till fresh shoots have made their appearance, and the leaves have attained a little size. Then give a little water just to moisten the soil. They are then ready for the autumnal potting."

VEGETABLE-GARDEN.

At the end of June some celery may be set out for early crops, though for the main crop a month later will be quite time enough. It was once customary to plant in trenches dug six or more inches below the surface; but the poverty of the soil usually at this depth more than decreases the balance of good points in its favor. Some of our best growers now plant entirely on the surface, and depend on drawing up the soil, or the employment of boards or other artificial methods of blanching.

Last year a correspondent described a mode of

employing charcoal for the purpose, which produces fine, firm and crisp stalks. Sawdust, shavings, and similar matters have also been used with beneficial results. Very rich soil is essential to fine celery, and well-rotted cow-dung is one of the best of manures for this crop.

Cabbages and brocoli may still be set out for fall crops, also requiring an abundance of manure to insure much success. Lettuce, where salads are in much request, may yet be sown. The Curled Indian is a favorite summer kind; but the varieties of Cos, or Plain-leaved kinds, are as good. They take more trouble, having to be tied up to blanch well. Many should not be sown at a time, as they soon run to seed in hot weather.

Beans produce enormous crops in deeply-trenched soils, and are improved as much as any crop by surface-manuring. We hope this method of fertilizing the soil will be extensively adopted for garden crops this season. Those who have not yet tried it will be surprised at the economy and beneficial results of the practice.

Peas for a fall crop may be sown. It is, however, useless to try them, unless in a deeply-trenched soil, and one that is comparatively cool in the hottest weather overhead, or they will certainly mildew and prove worthless. In England, where the atmosphere is so much more humid than ours, they, nevertheless, have great difficulty in getting fall peas to get through free from mildew; and to obviate these drying and mildew-producing influences, they often plant them in deep trenches, made as for celery, and are then much more successful with them.

Cucumbers for pickling may be sown this month, and endive for fall salad set out. Parsley for winter use may be sown now in boxes of rich soil, and set in a cool, shady place till it germinates.

Tomatoes do best when suffered to grow flat on the ground; but in such cases the soil should be covered with a mulch of straw or litter to keep the tomatoes from getting soiled and rotten by dampness. Brushwood is an excellent material for them to lie on, and they seem to thrive well with it about them.

Asparagus-beds should not be cut after the stalks seem to come up weak, or there will be but a poor crop the next season, and the beds will "run out" in a few years.

Herbs for drying for future use should be cut just about the time they are coming into flower. Dry them in the shade, and after sufficiently dry to put away, tie them in bunches and hang in a cool shed, or place them loosely between paper, and stow away in cupboards or drawers,—the last mode is by far the cleanest and most approved plan with the

best housekeepers. Some, indeed, powder the leaves at once after drying, and put away in bags ready for use.

Communications.

REVIEW.

BY AMATEUR, N. Y.

It has always been my custom to review my magazine at the end of the year, although I read them carefully at first. While reviewing the *Monthly*, I was so forcibly struck with some of the passages, that I was tempted to make notes of what was there. The first that aroused my attention was a piece on the Care of the Greenhouse, page 3, No. 1, Vol. II., where the writer *pities* the lover of flowers who has not a greenhouse. I am one of that number, although I have kept a plant-stand by a sitting-room window these twenty years, and have some plants that have been in my collection from the first, giving me flowers every year, such as the Calla, Cactus, and others; the small kinds of Cactus are well adapted to rooms, as they bear the dry air and dust of a room better than any thing I have, and seldom require repotting, and but little water. "All the gold in California" is not needed to build a greenhouse; but there are other hindrances more formidable than the cost, (for I am a firm believer in the adage, where there is "a will there is a way,") the greatest of which is, opposition from our husbands, for it is well known, that there is but a small number of men among the *real* lovers of flowers; another is the extra trouble in keeping them from freezing. I was examining the plants in a commercial greenhouse a few years ago, and in answer to the question, whether I had a greenhouse, I said I should not know how to take care of it, and was not able to employ a gardener. The owner said, "I should pity you if you had to depend on a gardener." So it seems we get *pity* for not having the luxury of a greenhouse, and *pity* if we are to depend upon a hired gardener. But I am quite sure I could find one that would mind my plants if opposition No 1 was not in the way. I would advise all the girls who *really* love flowers, to marry a *real lover* of flowers, or keep themselves free to build a greenhouse when they please. Of course, this latter clause applies to such as have funds of their own. This advice is rather foreign to our subject.

Page 9 somebody is taking a tour among the gardens; a *man*, I suppose, as he left the first establishment "with a firm determination to make his own little place look better next year." I have made

such determinations more than once, but you gardeners know but little about the inconvenience we *wives* have to contend with in the cultivation of flowers.

We will not follow the traveller any further this time, for our sheet is full, and remembering, too, that the editor likes short pieces.

[It is a pleasure to welcome so many ladies amongst our contributors this month. We hope for their continued and increased favors.—ED.]

ENTOMOLOGICAL ESSAY.

Read before the Fruit-Growers' Association of Eastern Pennsylvania at its Meeting in West Chester, on the 13th day of June, 1860.

BY S. S. RATHVON, ENTOMOLOGIST OF THE ASSOCIATION.

(Continued from Page 107.)

BENEFICIAL INSECTS.

12th. *Dytiscus* (Cybister) *fimbriolatus*, Say. "Large Water Beetle." Plate V. fig. 1. Length, about one inch and a quarter; color, above a dark olive green, beneath a glossy black; thorax and wing-covers laterally margined with yellowish; posterior feet, long and oar-shaped; anterior and intermediate pairs, rather short; head and thorax, wide and short, and uniting with each other and the base of the wing-covers squarely. Fig. 2 is the larva of a water beetle of this genus, and is introduced here to show the general form. I kept alive one of these beetles eight months in an aquarium, during which time he did not disturb the fishes, but assisted them to devour several tadpoles that were put in the tank at different times, and took his daily meal of flies and worms. He seemed, however, to be partial to worms. This insect may be regarded as the representative of about two hundred and fifty species of water beetles which inhabit the United States. All of these are most voracious feeders, in both their larva and perfect states, upon the larva and matured insects of other species. They prevent millions of gnats and other noxious insects coming from the water, in which they pass their larva state. After reaching the mature state their ample wings afford them the means of rising from the water in pursuit of insect prey. They are also charged with destroying young fish, in some instances depleting fish-ponds; but we ought to allow them these, in consequence of their services otherwise rendered.

13th. *Necrophorus Americanus*, Oliv. "Carrion Beetle." Plate V. fig. 3. Length, from an inch and a half to an inch and three-quarters; some individuals of this species are also found less than this measure; a yellowish or light brown spot on the head; and two spots or blotches of the same color on each wing-cover, one near the base and one near the apex; a large yellowish spot on the thorax, nearly covering it, leaving only a narrow margin of black around it; the abdomen extends two or three segments beyond the wing-covers; the antennæ are black, and terminate with a yellowish tuft or club; legs and under body, black; the thoracic portion of the latter covered with yellowish hairs; mandible, black, short and stout; the outer margin of the wing-covers is yellowish when seen from beneath, so that they may be said to be yellowish, with black blotches, as properly as otherwise. This is our largest American species of this genus. There are some eighteen or twenty species belonging to this genus, but there are about one hundred and fifty species allied to it in habits. And although some of them get into hams and slices of bacon, yet on the whole they render such efficient service as scavengers, that we may well afford them a little of our superabundance. They assist materially in the decomposition of putrid animal and vegetable matter, but do not attack living vegetation. They must not, however, be confounded with the "blow flies," which perform a similar service.

14th. *Staphylinus villosus*, Grv. "Maculated Rover Beetle." Plate V. fig. 4. Length, from half an inch to three-quarters of an inch; head and thorax, a shining black; wing-covers, dull black, and covered with minute hairs, and short, not more than covering one-third of the abdomen; abdomen, black above and below, with two of the intermediate segments covered with short white hairs, giving the appearance of a whitish band around the abdomen, more distinct below than above; antennæ, thickened towards the end; legs, black, and of moderate length. This insect is the representative of about two hundred and fifty species belonging to the family STAPHYLINIDÆ, which inhabit the United States. They assist greatly in the decomposition of animal and vegetable matter. They are very active on foot, and run with the abdomen turned upwards, giving them a rather formidable appearance. Found in decayed animal and vegetable garbage, also under the bark of rotten wood, and sometimes in old bacon. Although their wing-covers are very short, yet they have a very ample pair of wings folded up beneath them, which, when expanded, are nearly as long as the body. Active from very early in the spring until late in autumn.

15th. *Coccinella novemnotata*, Hbst. "Nine-Spotted Lady-Bird." Plate V. fig. 5. Length, about a quarter of an inch; color of the wing-covers, red or reddish-yellow; four and a half spots on each wing-cover; thorax, black, marked with white, marginal and otherwise; form, hemispherical or tortoise-shaped; legs and antennæ, short. Sometimes also called the "Cow-bug." These insects are decidedly the best friends we have, taking them as a class, especially those which constitute the group called *Aphidiphaga*, from their living upon the common *aphides* or *plant-lice*. There are probably a hundred species or more of the coccinellans, a few of which will also feed upon vegetation in the absence of aphid food, but these are mainly confined to the pollen of flowers, especially the smaller species of them. One large species I have detected cutting holes in the leaf of the cucumber, and I exhibit him in order that he may be distinguished from others—*Epilachna borealis*, Pk. Fig. 6a.

16th. *Hippodamia 13-maculata*, Lin. "Thirteen-spotted Lady-bird." Plate V. fig. 6. About the same in length as the preceding; color, redder; form, a little more long, and not so globose; thirteen spots on the two wing-covers and thorax; found in company with the former. Fig. 6a Larva of a Lady-bird, being a blackish grub, with six feet, marked with reddish or yellowish spots on the back; like the coccinella, it undergoes its transformations upon the leaf, where its larva feeds on aphids. This is one of those that are not so strictly aphidiphagous as those last mentioned, but as they remain hid in clefts and chinks during the winter and come forth in early spring, if they attack vegetation it is because of the absence of their natural food.

17th. *Reduvius noviniarius*, Say. Plate V. fig. 8. Length, one inch and three-eighths; color, brownish-liver; antennæ and haustellum, dark rufous; thorax, crested, with eight or nine cylindrical teeth; feet, rather long and simple, the anterior pair raptorial in their structure. Like all *Hemipterous* insects, the Reduvians are active feeders from their exclusion from the egg until their allotted period—which sometimes continues a whole year, even hibernating through a cold winter—is terminated by natural death or some other contingency. The one here referred to is by far the largest species known to exist in this country, and was described and figured by Mr. Thomas Say, many years ago, in his "American Entomology;" but he does not appear to have been acquainted with its habits any more than that the genus is carnivorous. It is quite abundant in localities south of Pennsylvania, and is becoming of more frequent occurrence here I have found them too rarely about Lancaster County to make any reliable observations upon their habits, but Mr. Glover says they are abundant about Washington City, where, "during the summer and autumnal months they are very useful in destroying the disgusting caterpillars which swarm the shade trees." A small specimen experimented upon was placed in a box with ten caterpillars, all of which were destroyed in the space of five hours. It approaches its prey stealthily, and when near enough, it suddenly springs upon it and plunges its piercer into its unfortunate victim, and deliberately sucks out all its juice. Its very organization evinces its raptorial habits.

18th. *Reduvius atrata*. Plate V. fig. 7. Length, about five-eighths of an inch; color, black; thorax and basal portion of the scutellum, shining black; a deep longitudinal indentation in the middle of the thorax; legs, rather short and robust; female, apterous, or without wings. I have never seen a description of this insect, although one of such frequent occurrence must have been described long ago; therefore, I have only named it *atrata* approximately. This is a common species, found under logs and stones, and from some observations which I have made upon it, I am satisfied that its habits are similar to fig. 8. Both of these insects have the power of inflicting great pain by their puncture, as I, on one occasion, realized. It produced no swelling, but at first, and for thirty minutes the pain was of considerable intensity, causing sickness of the stomach and feverish perspiration, leaving the finger punctured in a semi-paralyzed state for three or four hours afterwards.

19th. *Reduvius (mydochus)*. Plate V. fig. 9. Length, three-quarters of an inch; color, green or greenish-yellow; form, slender; a tooth or spine projecting from each side of the thorax; antennæ, long and filiform, bending suddenly downward about the middle; legs, long and slender, the anterior pair longest and thickest; exceedingly carnivorous in its habits; and its facilities for flight enables it to capture its prey with ease. It is represented destroying a capricorn beetle (*Tetraopes tomator*.) If it has not already been named, I would suggest *dentata*. This insect I have often caught in the act of destroying various species of moths and beetles. It is also a raptorial insect.

20th. *Osmylus maculipennis*. "Maculated Lace-wing." Plate V. fig. 10. Length of body, about three-quarters of an inch; expansion of the wings, two inches and a quarter; color, brown; thorax, hairy; wings, transparent and speckled with brown; a row of alternate whitish and brown spots around the entire margin of the anterior wings; two longitudinal veins extending the whole length along the costal margin of both pair of wings; eyes, brown and polished; antennæ, filiform and about one-third the length

of the body. This insect seems to be allied to the *Hemeliobians*, and in the absence of a specimen of that genus from which to make a drawing (all of mine having been destroyed), I have caused this to be delineated on account of its approximation to the form of the family aforementioned. I do not know any thing positively about its habits, but reasoning from its analogies, I presume it to be a friend, but the following remarks upon this family have more particular reference to the genera *Hemerobius* and *Chrysopa*. It is only provisionally named. These insects are well known by many observers to be among the greatest friends to vegetation that are to be found in the insect world, and I have often witnessed their havoc among colonies of *Aphides* with the greatest interest. It is not certainly known how the young subsist immediately after they are excluded from the egg,* but from the fact that Dr. Fitch says he has seen the young larva of the "Lace-wing" with its mandibles inserted in the newly-laid eggs of other insects; the inference is that it feeds upon this kind of food, and also upon the young larva of some species, until it acquires sufficient strength to manage a full-grown *Aphide*. We may also infer that this is the reason why the female Lace-wing deposits her eggs on the end of long foot-stalks, namely, in order to prevent their destruction by the young subjects of her own family.

21st. *Chrysopa Harrisii*, Fitch, or "Golden-eyed Lace-wing." Plate V. fig. 11. This insect is by far the most common in this locality of any other member of the family *Hemerobiadae*, and was formerly included in the former genus. Dr. Fitch describes twenty-two species of the "Golden-eyes" and eleven species of the Lace-wings as inhabiting the United States, and there are probably many more than these. The genus *Myrmelion* or "Ant Lion," the "Woolly Weaver" of our boyhood, is allied to this family. For a more extended notice of *Chrysopa Harrisii* see an article prepared by me, giving some account of the insect in its larva, pupa, and perfect states, with illustrations of the same, to be published in a future number of the *Gardener's Monthly*.

22nd. *Panorpa maculata*, or "Scorpion Fly," from it striking with the end of its abdomen after the manner of a scorpion. I have seen this fly attack much larger insects than itself, and despatch them in a very short time. Plate V. fig. 12. Length of body, one-fourth of an inch; wings expand about one inch; color, light brown; legs and antennæ, moderately long and slender; wings, transparent and numerously maculated with light brown; rostrum, prolonged into a snout pointing downwards. I have given this insect the above name only provisionally, never having seen a description or figure of it anywhere, and yet it is quite common, and the scorpion-like appendage at the end of the abdomen, which is usually carried with an upward turn, renders it formidable in appearance, although it does not inflict a wound with it. When it seizes an insect, it immediately penetrates it with its rostrum and sucks out its juices.

* I have seen quite young larva-destroying *Aphides* within the month of July.

STANDARD ROSES.

BY MAPLE DELL, ALTON, ILLS.

In glancing over the pages of your valuable *Monthly*, my eyes fell upon the remarks made by J. C., with reference to standard roses.

Being well aware that roses have, when budded, their merits, as well as demerits, I will endeavor to say a few words in their favor, preferring budded roses to roses upon their own roots, simply because they succeed best with me. And my favorite stock is the Dog Rose, and the Cabbage Rose my next, as they grow more free and sucker less upon these stocks than any other, the Manetti I have not tested sufficiently to judge of its good or bad qualities as a stock.

My reasons for preferring these stocks will be given in the following note, permitting others to judge for themselves.

About nine years ago, when hybrid perpetuals were scarce in the west, my father had a number of annuals, perhaps twenty, budded with monthlies; of this number at least ten remain to-day, looking as healthy as any one could wish, bidding fair to produce another fine crop of roses.

Among the standards: Prince Albert budded 2 feet high upon the Dog Rose, is 1½ inches in diameter, 6 inches below the bud. 1 La Reine budded 4 feet high, is one inch in diameter. Another, Melina Carna budded 18 inches from the ground, is 2½ inches through, about 6 inches high from the ground.

These roses are annually pruned back to within 6 inches of the old bud, making an entirely new growth every year, blooming profusely at stated periods during summer and fall. The soil of this garden is a fine sandy loam, resting upon a strong lime-clay sub-soil.

Before closing, I will make a remark upon the proper culture of standard roses, viz.: cut them in severely every spring, use decayed chips or straw in preference to strong manures, and you will have less rank growth and finer flowers.

LINNÆUS AND LINNÆA BOREALIS.

BY L. HADDONFIELD, N. J.

(Continued from page 133.)

LINNÆUS appears to have enjoyed a happy faculty of communicating his ideas to his pupils, and to have possessed great influence with them. It was one of his customs to take summer excursions at the head of the students, to the number of two hundred, exploring the country, and whenever a remarkable plant or other natural curiosity was discovered, a signal was given by horn or trumpet, which gathered the whole corps around their chief to hear his demonstration and remarks. In a few years the most enthusiastic and persevering among these were distributed over the whole world, and their various histories would alone form a volume of deep interest. Many of them fell victims to the elements and pestilential climates, but many returned fully compensated for the hardships they had endured, and have had their names handed down to science in tribute, bestowed upon them by their venerable preceptor, commemorated in the genera *Osbeckia*, *Kalmia*, *Solundea*, *Alstroemeria*, *Lœflingia*, *Hussequista*, *Sparmannia*, *Thunbergia*, &c.

Every branch of natural history was revised or re-modelled by him, and his life was one of increasing fame and prosperity. In 1757, he was raised to the nobility by the title of Von Linné, and purchased estates with the proceeds of his incessant toil as a physician and teacher. His closing years were burdened with ill health and he ceased from his labors in 1778, in his 71st year. His remains were interred in the cathedral; a general mourning took place on the occasion at Upsal. King Gustavus III. caused a medal to be struck expressive of the public loss, and in a speech from the throne, described the death of Linnæus a public calamity.

And—for his own little flower—raised to eminence by his name, it was adopted as a part of his crest; the helmet which surmounts the arms of his family being adorned with a sprig of Linnæa. One of his pupils who visited China, sent to his mother a service of porcelain, manufactured purposely for him, having a representation of the plant as its only decoration, and the Cardinal de Noilles erected a cenotaph in his garden to the memory of the Naturalist, and planted the Linnæa by its side as its most appropriate ornament.

Thompson, the author of "Life in Russia," remarking on the love shown to this little flower by the Swedes, says:

"To have produced one man whose reputation has become the property of the universe, is their boast and pride to this day; and, as if to prove what the force of example of one great mind can effect, the love of botany is among the Swedes a ruling passion. The *Linnæa borealis*, a little creeping plant of delicious fragrance, growing wild in the woods, and first discovered by Linnæus, and with which they crowned his bust, is perfectly venerated. In one of my rambles in the country, some school-boys who were following the same path, came running to me, stranger as I was, exclaiming, 'See, sir, we have found some of the *Linnæa borealis*!'"

"In Sweden," says Prof. Smith, when recommending Natural Science to the rising generation, "Natural history is the study of the schools by which men rise to preferments." And Dr. Clarke has borne testimony to the zeal with which this branch of science is pursued by men of various classes in that country." He relates a pleasing anecdote in point which may perhaps be not inappropriate here as illustrating also the influence of the Swedish sage. "Arrived at Tornæa, at the northern extremity of the Gulf of Bothnia bordering the Arctic zone, Dr. Clarke sent to the apothecary of the place for a few jars of the Conserved Dwarf Arctic Raspberry.*



He had observed this "rare plant" in the woods near the shore where he had landed and found it bearing fruit as large as the common raspberry, though so diminutive that an entire tree with all its branches, leaves and fruit was placed in a phial holding about six ounces of alcohol."

The fruit was brought to the Doctor by a boy without shoes or stockings, who, having executed

**Rubus Arcticus*, the Arctic bramble or raspberry, may be thus described: It has three glabrous obtusely-serrated leaflets, no runners, stem bearing only one flower, and without prickles, the petals notched. It is a native of the mountainous and colder regions of Europe, and has been found also in Labrador. Its stem never attains a greater height than six inches and is furnished with from three to four leaves, with a single large deep rose-colored flower, which is succeeded by a purplish-red fruit, highly prized for its flavor among the Swedes.

his errand, was observed to cast a longing eye towards some books of specimen plants which lay on the table ready for arrangement. To their surprise, he named every one of them as fast as they were shown him, giving to each its appropriate Linnæan appellation. The doctor found, on inquiry, that this extraordinary youth was the son of a poor widow who had placed him as apprentice under the apothecary. His master had himself a turn for natural history; nevertheless he did not choose that his pupil should leave the pestle and mortar to run after botanical specimens. The lad had, however, carried on his studies secretly, snatching every hour he could spare to ramble barefooted in search of a new plant or insect, which he carefully concealed from his master, who at length discovered his boxes of insects, and unscrupulously appropriated them to his own use, and exhibited them in his shop window as of his own collecting! These facts interested Dr. Clarke and his companions so much in behalf of poor little Pyphon (for that was his name), that they showed him much kindness, procuring him some hours of relaxation from his toils and giving him some English needles for his insects and a few similar trifles, to him an invaluable treasure. Not unfrequently during their short stay they had recourse to him for what they required, and on one occasion told him that a rather rare plant was said to grow in that neighborhood, but that they had failed to discover it. Scarcely were the words uttered, when he ran off, fast as his legs could carry him, and soon returned, bringing in his hand two or three specimens of the plant. But the hour of separation from the kind strange friends came all too soon to the little naturalist who, shedding abundance of tears, bade them farewell—making this touching request at parting: "If you should remember me when you arrive in your own country, send me *Drosera longifolia*; I am told it is a common plant in England!"

RESTORING HEAT TO HOTBEDS.

BY S., MONTMORENCI FALLS, CANADA.

THERE are occasionally some instructions in your periodical which are exceedingly valuable to an amateur like myself. This spring, finding my first hotbed show no symptoms of heating, the thermometer therein standing at 30° after it had been eight days made, I gave it a dose of strong ley with lime; next morning, though still as frosty out of doors, the thermometer showed 45° and gradually increased to 80° after a few days. My next hotbed I heated in the same way with similar success. My garden roses have been very shy of flowering, but as I intend to put in practice your hints about root-pruning, I hope for a better result this season.

NOTES ON SOME NEWER GRAPES.

BY W. TOMPKINS, GERMANTOWN, N. Y.

Concord Grape.

THIS new grape has fruited here for several years, and although it is not quite so early or good as its originators claimed, yet, beyond doubt, it is a very great acquisition, and is fast working into public favor, and is destined to occupy an important position in the future vineyards of this country; vine exceedingly hardy, vigorous and robust; foliage large and thick; fruit never mildews, or rots, or drops off.

To the market-grower especially it is invaluable, being so easy to propagate, and so quick to get in a bearing condition, and will then bear more ill-treatment and continue to thrive and produce fruit of fair quality than any other grape that we are acquainted with.

It is not quite so productive as the Isabella, or so early a bearer; yet, when of proper age and size, always sets just as much fruit as the vine has the capacity to ripen well, and at the same time make the requisite quantity of wood for the next season's crop. Now, this is just what the market-grower wants; after tying the vines to the trellis in the spring, he need not bother about thinning the fruit, summer-pruning or pinching laterals; the vines having just the right quantity of fruit, will ripen it with a certainty and uniformity that is truly surprising. All he need do is to work the ground enough to keep down the grass and weeds, and perhaps tie a few straggling shoots to the trellis. When the vine is tied to the trellis, (after it has been properly pruned,) the branches should be brought down to a horizontal line as near as practicable, as that position holds the natural vigor of the vine in check, and makes it the more fruitful; and the side shoots as they grow should not be tied up to the trellis, but suffered to spend their strength by growing downwards; the clusters will not then be robbed of their share of the fruit-producing principle, and will be larger and sweeter for it.

Although last season was one of the most unfavorable, probably, that we have in this latitude, yet, notwithstanding, the *Concord* began to color early in September, and by the middle of the month was ripe enough to send to market, and samples sent at that date sold quickly at 13 cts. per pound. But to have this grape in its perfection, it should hang on the vine until the latter end of the month, when it will be found exceedingly sweet and luscious, having much more saccharine matter than the Isabella or Catawba in their best condition.

Some persons complain that it is apt to drop from the bunch when fully ripe, but I have found no

trouble of that sort, and should think it must have been caused by bad pruning, or no pruning at all. From the report of the *Massachusetts Horticultural Society* for 1860, it appears that it did not, as a general thing, ripen that year, and what is true of the Concord is true of all other varieties of good quality. A few Diana, Delaware, Hartford Prolific, and other grapes were shown of very satisfactory appearance. But in the State of New York, I believe, it ripened well, although some vineyards of Isabella and Catawba on the banks of the Hudson River, which are planted as close as 3 or 4 feet in the row, failed to mature their fruit, which I think pretty convincing proof that a vineyard should not be planted after the European method in America. Most of the grapes grown on the Hudson are planted 12 feet apart in the rows, and the rows about 12 feet from each other, and the mildew of the fruit and leaf is almost unknown here, and the fruit in such vineyards, if well managed, ripens with as much certainty as apples or pears.

Raabe Grape.

This grape has fruited here for the last three years, and, in my humble opinion, it is destined to become one of the most popular grapes for the garden or vineyard that we are acquainted with.

The vine is a good grower, hardy, very productive, never suffers from leaf blight or mildew; always ripens its wood to the extremities of the branches, and is short-jointed and firm, which is a sure indication of fruitfulness.

Ripens about the middle of September, and like the Concord, ripens uniformly, and for excellence rivals the Delaware, and the fruit, when well grown, is nearly or quite as large, and resembles the latter so much that it will sell in the market for that variety, and but few persons be able to tell the difference; and what is of more importance, the foliage and fruit has never been known to suffer from mildew, which is so injurious to the Delaware in this locality.

It has been called a grape of foreign origin; but this, I think, is a mistake, as any one can soon see by comparing the foliage, fruit, and general appearance of the vine with the Catawba, that it must be in some way related to that variety, but will be found of much more value in all localities where the Catawba does not ripen, or is much subject to the "rot."

The fruit, when fully ripe, is so charged with saccharine matter that it attracts more bees and other insects than any grape that we grow, and it is not uncommon to find dried clusters on the vine late in November that are as good as raisins.

Emily Grape.

We received this from a noted collector of grapes,

not 100 miles from Lebanon, Pa.; it is a most luxuriant grower, and the wood very firm, and short-jointed; foliage resembles the Clinton.

It fruited last fall for the first time with me, and you may be sure that I felt no little anxiety while it was ripening.

Well, after waiting patiently until the 20th of September I had the gratification of picking and eating one of the vilest frost grapes in America. In the meantime I very industriously propagated about 100 fine, vigorous plants, which I will distribute gratuitously to any one who desires a specimen.

Now, Mr. Editor, I think this almost too bad to be treated in this way, and I hold that when a mistake of this kind occurs, the person sending out the spurious article should make restitution, no matter whether it was done through mistake or otherwise. The writer is not the only one who has suffered, but knows of others that are in the same fix.

If there is a grape called the Emily that is worth cultivating, I hope that when this meets the notice of the person I allude to, he will send a plant or two hitherward.

[By reference to page 25 of the *Gardener's Monthly* report of the Pomological Society, the following notice of a "spurious Emily" reads:

"MR. MILLER—I am charged with sending out a spurious Emily extensively. I got it from headquarters, Mr. Raabe himself, from whom others also received it."

Another gentleman of our acquaintance also says he got his spurious Emily from Mr. Raabe. It is but justice to Mr. Raabe to say that he denies that he ever sent it out, and so the matter stands. Unquestionably the "counterfeit" is one of the vilest kind.—Ed.]

GARDENING IN LANDSCAPE.

BY J. W., OGDENSBURG, N. Y.

It is plain that they who would imitate nature in gardens, must do so in another way than by copying her piecemeal. They ought, indeed, to be imitators, but not painters, transcribing her spirit, and not her individual expressions,—her general countenance or aspect, and not her particular features. An artist, to be a painter, or a landscape artist, or an amateur in either branch, should go to nature to study principles, gathering up snatches of scenery, and storing them up in his memory or his portfolio for future use. He should note all that pleases him, and endeavor to understand how and why it influences his mind. By thus filling his brain with numberless beautiful little pictures or images, and his intellect with the foundations and sources of pleasure in his art, he will come from

nature doubly primed to give practical utterance to his imaginings, and prepared to embody in a composition the fine touches, and a more artistic and spiritual element which he has collected from such a variety of sources. All this is his "duty." Nature is the great school of gardening in landscape. It is in her broader teachings and general promptings, that materials should be gathered for practical use. And these, be it remembered, will be solely available in idealizing and exalting art, in "landscape and picturesque gardens." This he "acquires" by industry!

To regard a garden otherwise than as a work of art, would tend to a radical perversion of its nature. A garden is for comfort and convenience, luxury and use, as well as for making a beautiful picture. It is to express civilization, and care, and design, and refinement. It is a blending of art with nature, an attempt to interfuse the two, or to produce something intermediate between the pure state of either, which shall combine the vagaries of the one with the regularity of the other. That beauty should be the ultimate aim of every operation in gardening in landscape. There may be different opinions as to what constitutes beauty, and of what ingredients it is made up,—some affirming that its chief elements are those of form; others that it consists solely in association. We may assume that it is to be found in both. Beauty in gardens is not by cultivating only a few particular species of plants, and not merely harboring, but cherishing, a dislike to all others. A garden denuded of half or three-fourths of its proper ornaments is much in the same predicament as an individual with only a portion of his ordinary garments. It is imperfectly clothed—insufficiently finished—weak in expression of the beautiful. And should be pretty obviously expressed in that part of every garden which is in the intermediate vicinity of the house, terraces, straight lines of walks, avenues of trees or shrubs, rows of flower-beds, and geometrical figures, with all kinds of architectural ornaments. The artist's taste will be shown in his "acquirements" in concealing all its manifestations in the little arts, and ingenious contrivances, and kindly cares, which embellish gardens, as they do life, without ever revealing the machinery of their action, and of which the effect is seen and felt in their results, rather than their process,—in the whole, rather than the detail. A beautiful, quiet-looking garden, like a well educated individual, presents no particular feature that can attract special notice; all is smooth, easy, agreeable. And perhaps this quietness of expression is the truest index of "duties, acquirements, and abilities," refinement and taste.

The artist's "abilities" assist him in the greatest

of practical difficulties, which an artist in landscape has to contend,—his "acquirements" in dealing with the picturesque. Smoothness and regularity of treatment are so thoroughly what an ordinary gardener is accustomed to, that it requires no small effort to enlighten him as to the mode of achievement, of any thing really beautiful in the way of curved lines and undulations. But when ruggedness and the appearance of rude naturalness are sought, it is indeed hard to obtain a practical operator in either architect, surveyor, civil engineer, or draughtsman, and "landscape-painter."

The practical gardener in landscape knows, nothing imparts a greater air of refinement and gentility to a garden than a certain amount of richness and polish. His "acquirements" teach him the first of these may be attained by means of a tasteful selection of plants and flowers, and by the sparing use of appropriate architectural decorations. Every thing straggling or ragged, all that produces confusion, and, as a rule, all angularity and harshness, are completely opposed to it.

Modern tendencies in gardening have been too much away from its character as an art, and the more it is restored to its legitimate position, the more nearly will it be brought into kindred with architecture. All architects endeavor to extend their business; for as a house and a garden are naturally and intimately associated, and it is a law of the universe, that boundaries of each domain in the natural kingdom should insensibly mingle and be lost in each other, so it is plain that an unvitiated taste would be most gratified when the province of architecture is extended so as to embrace lightly and harmoniously such parts of the garden also, in these parts, rises in character to meet the requirements of architecture, until either art is so refined and attenuated, that it would be almost difficult to say what belongs exclusively to each.

Still, there is that about gardening, which, in the nature of things, and apart from the difference of materials with which it has to deal with, constitutes it a distinctive art. And garden architecture has lineaments of its own decidedly removed from those of house architecture, and so seldom studied, that the ordinary architectural practitioner is at sea the moment he enters the region of the garden. It is less a matter of rule and measurement. Its effects are more to be judged of by the eye. It comprehends a far greater variety of combinations. It requires a man to be as much an artist (at least in feeling) as an architect, and to be familiar with natural groupings and tones,—to take in an entire landscape in the range of his design, and not merely isolated or detached objects. In fact, the garden architect has to

make a general picture, and not simply to set a work of art, as it were, on a solitary pedestal.

The province of garden architecture is, primarily, to supply fitting appendages and accompaniments to a house, so that the latter may not appear naked, alone, and unsupported. If judiciously applied, it will be effective in helping to produce a good outline or group; to carry down the lines of the house to connect it with other buildings, such as a conservatory, arbor, &c.; to provide a proper basement for the house; to afford shelter and privacy to a flower-garden; to extend the facade or frontage of a house; to shut out back yards, offices, &c.; to enrich, vary, and enliven the garden; to supply conveniences, such as shelter, receptacles for birds, plants, sculpture, &c., with museums for works of art or specimens of natural history, and supports for climbing plants; to indicate refinement, wealth, and a love of art; and otherwise to blend the two by communicating a more artistic tone to the garden.

But in addition to expatiating upon the political and physical relations of gardening in landscape to mankind, it is not unusual for authors or editors, in order to excite, on the part of gardeners and the community in general, an increased interest in the cause of gardening in landscape, as well as to commend their own labors to public favor,—to indulge in elaborate encomiums on the moral dignity of rural pursuits, and their adaptedness to ennoble the lives and characters of those who engage in them. Such encomiums are just, and, in their proper place, useful and gratifying. No reflective mind, however, whether that of a gardener or a tradesman, needs to be informed of the tendency of constant communication with the works and phenomena of nature to purify the thoughts, and thus exert a largely restraining influence upon the dark passions of the human soul. No man works more in the immediate presence of his Creator than the gardener. He sees Him not only "in the cool of the day," but in every waking moment,—in the purity and fragrance of the circumambient atmosphere,—in the untamed grandeur of nature's mountains, rocks, fields, forests, and gushing waters,—in the germination of every seed,—in the growth of every leaf and of every blade of grass; by these, and numberless objects besides, is he impressed, not only with the power, wisdom and goodness of Him who "causeth the grass to grow for the cattle, and herb for the service of man," but with the gracious course of His providence, which rewards every discovery of His laws, and every act of obedience to them. It is uttering no harsh judgment, then, when we say, briefly, that the man who can live and labor, surrounded by so many and so palpable attestations of a beneficent and controlling

Power above, without realizing the nearness of his relations to that Power, or without hymning in his heart devout ascriptions to praise and gratitude, is a sad example of the derangement which sometimes characterizes man's moral machinery. And if, with the Book of Nature thus unfolded so luminously before him, his feelings fail to be voluntarily awakened to a just sense of the honorableness of his employment, and of his "duty" to improve every means and facility that will enable him to become skilful and thrifty in his calling, no words of rhetoric, however eloquent, will be able to arouse them.

DROUTH, UNDERDRAINING, SCIENCE AND PRACTICE.

BY J. N. R., INDIANAPOLIS, IND.

IN the May number of the *Gardener's Monthly*, you seem to set the "teachings of science" at war with the "results of experience." You misapprehend the author quoted, or I misapprehend the point in your article. The author quoted intended to teach that, in an undrained field, the rains which fall on the surface and sink through the surface soil, filter the soluble plant food down into the subsoil, and that dry weather, in that it draws this water to the surface again, compensates that evil.

The "scientific author" declares three facts:

1st. When it rains, the water filters through the surface into the subsoil. 2d. The water in the soil contains soluble mineral plant food in solution. 3d. Soil water in very dry weather ascends by capillary attraction from the subsoil to the surface, and is there evaporated, and whatever it holds in solution is left in the soil at that point where the water becomes vapor. I understand these three facts to be established, beyond all doubt, alike by science and experience.

If in this the author has assumed that drouths were really *desirable*, his position might be doubted; but it is still true that soil water is drawn from a depth of five, six, and perhaps sometimes even ten feet to supply the demands of a dry, hot air, and it is mathematically certain that the quantity of mineral plant food brought to the surface by evaporation must correspond with the quantity of water evaporated, the depth from whence it ascends, and the supply of such minerals in the soil, in a soluble state. It is better, in my opinion, that short "dry spells" should evaporate the water of brief rains than that protracted dry weather should ever occur.

But if it be true, as you say, that a *deep drouth* lets the vital air *deep in the ground*, and that *insoluble minerals are thus rendered soluble and capable of becoming plant food*, (a fact which I most heartily endorse,) it is a "chemical fact" which "experience"

cannot deny, that the deepest drouth on underdrained soils is a real blessing. In this way, a severe drouth is a "deep tiller," running far below the range of sub-soil ploughs.

If, then, I apprehend the matter correctly, the scientific chemist says truthfully, that "whatever of mineral plant food is dissolved in the soil water is left on the surface by its evaporation in dry weather," whilst the practical gardener, with equal truth, says, "when dry weather evaporates the water out of the ground, the air enters into it, and by oxidizing its minerals, renders them soluble, and thus fit to become plant food." The only fault I find with the agricultural chemist is that he confined himself to one idea, when two bright jewels lay side by side. The hot sun draws the water out of the ground and incidentally conveys the dissolved mineral plant food from below to the surface. As the water comes out of the ground, the air rushes in, and the oxygen of the air, by combining with insoluble minerals, renders them soluble, ready to be drawn up by the next drouth. The agricultural chemist told half the truth, and the practical gardener told the other half.

But what about draining? If I understand the matter correctly, thorough drainage doubles the quantity of water evaporated from the surface, because it keeps up an inexhaustible supply of water in the soil. It is not generally known that in underdrained and deeply tilled soils, the deposit of dew in the subsoil at the depth of ten or twelve inches is continued all day under the direct rays of the hottest sun and the dryest air; and the more rapid the evaporation from the surface, the more copious is the deposit of dew in the subsoil. Thus we find that, in an underdrained and deeply tilled soil the water descends only during and soon after a saturating rain, but ascends at all other times. The surface soil and vegetable foliage condense the vapor of the air during the night, because they are colder than the air. Now, the subsoil is always colder than the surface of the earth in summer, and to continue the dew deposit all day, it is only necessary to let the air freely into the subsoil. From experiments which I have made, by digging into the soil, smoothing up the south wall of the pit, and placing a piece of glass against it, and noting the quantity of water deposited upon its outer surface, in a given space of time, I have no doubt that drainage and deep tillage will supply more water to a farm or garden, during summer, than the entire rain fall. And then this dew-water never descends, but always tends upwards to supply evaporation. And by this means, too, air is always present in the soil, ready to decompose minerals and manures, thereby to sustain vitality in the soil.

But how does underdraining "cool the soil?"

The statement is only true in reference to the *surface*; the subsoil is rendered warmer. The following is a true statement of the fact: If enough atmospheric vapor is condensed in the subsoil to make one ounce of water, there is thereby heat enough set free in the soil to heat three ounces of iron red hot. If, on the other hand, an ounce of water is evaporated from the surface, a corresponding amount of heat is wrapped up or rendered insensible. During a hot summer day the surface is cooled and the subsoil is warmed. During the night, radiation eliminates this heat from the subsoil to the surface, and then into space. Thus heat, as well as water, ascends from the subsoil to the surface in all underdrained, deeply tilled soils.

There is one idea in this connection which demands a separate paragraph. When the atmospheric vapor is condensed in the cool subsoil, and its insensible heat is thus rendered sensible, that heat is just so much *electric force*, and it cannot reach the surface to be rendered again insensible by evaporation without traversing the root-fibres of the growing crop; and this electric force (electricity in motion) is *vegetable vitality*, and consequently, the strongest possible stimulant to growing crops. This is, in my view, the richest field of agricultural chemistry, and a point of inquiry destined to cast a clearer light upon the *mode* by which fertilizers act upon the soil and its products than any other. It will teach that alkalies operate as fertilizers, not so much by rendering mineral plant food soluble, as by setting electricity in motion by combining with and decomposing other minerals, that the decomposition of vegetable substances within the soil does more good by the development of electric motion than by supplying plant food in the soil. And if this position is correct, it will follow that green manures are far better than the best guano, as experience teaches us.

[Soil water is certainly drawn to the surface in a drouth, and water, *under certain circumstances*, holds "salts in solution." When water comes in contact with alumina, the latter's absorbent power is greater than the solvent power of water, and *filtration* commences. Water no longer "holds salts in solution," and after passing through soils containing alumina in good proportion, is as nearly pure of all extraneous matters as it is possible to be, as water from the mouths of underdrains abundantly testifies.

As, then, soil, or rather, the alumina in the soil, absorbs the salts which were held in solution by the water passing through it, it is a question how far the water possesses the power of abstracting them again from the particles of soil, and bringing them to the surface during evaporation. The probability is that a given particle of soil can only absorb a certain

quantity of a soluble salt, and that then water may take up the overplus and carry it to a near particle that is deficient in quantity, and thus equalize the material through surrounding matter. In this way, drouth might be a slight benefit in exceptional cases, but would not support the rule. So far as we know, no experiments but those of Prof. Higgins have been made with direct reference to solving the important inquiry, and though we do not believe in the doctrine ourselves, our "point" was rather to question than to controvert it.

We hope experiments will be tried. It is so easy. Take a six-inch flower pot, for instance, fill in an inch of soil, place a quantity of common salt on this, and then fill with soil to the brim. Set the pot then in a pan of water, and never, under any circumstances, let any water flow through the surface, but as fast as the water evaporates from the surface let water be added to the saucer below.

"If water, by capillary attraction from the subsoil to the surface, is there evaporated, and whatever it holds in solution is left in the soil at the point where the water becomes vapor"—if it really does hold any thing in solution when it reaches that point—the salt ought to be brought entirely to the surface by a long-continued evaporation. The other matters touched on by our correspondent, especially those in connection with electric force, vegetable vitality, &c., are highly interesting, and we trust will receive attention from scientific and practical cultivators.—Ed.]

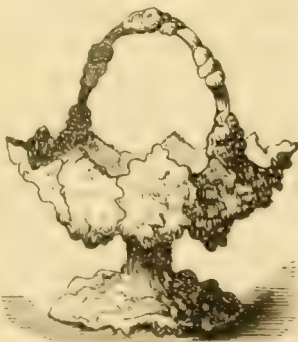
RUSTIC BASKETS.

BY E. R. MITCHELL, KINGSTON, MASS.

I SEND you some drawings of my "rustic work" for the *Monthly*, should you think them worthy of a place there.

The "Table for Flowers" is made with small baskets fastened on the small branches that grow out from the trunk of the tree which forms the standard, as you will see in the drawing. These

Fig. 1.



little baskets look much prettier than shelves, as the "rustic" sides come up and hide the flower-pots.

The Flower Basket (Fig. 1.) is much the same, with the addition of foot and handle.

Fig. 2.



The Hanging Basket (Fig. 2.) is made of one solid knarl or knot, made hollow to receive the earth or pot, and is hung with cords or strings of acorns.

The other stand is very pretty to set parlor ornaments on, such as flower-baskets, vases, statuary, &c. This work is all made of the gnarls and peaks of the oak, the bark being all taken off and the wood then varnished, which makes it resemble the most unique and ancient carved work. I will say I was awarded a Diploma and Medal at the Massachusetts Charitable Mechanic Association in Boston, September, 1860, for this work.

[In our last, we gave the two larger sketches by Mr. Mitchell, as a frontispiece, and now the others with Mr. M.'s own description of them.—Ed.]

FUNGUS AMONGST CUTTINGS.

BY A GARDENER, PHILADELPHIA.

LAST year I read in the *Gardener's Monthly* several articles on the cutting fungus, from which I have always had much trouble in my striking. I tried most of the things recommended, but did not find much good from them. One of your contributors spoke of powdered charcoal, which I had heard of before, but never tried; but since reading, put up a box of it; but I thought if any better, it was not much, as I lost a great many cuttings in it also.

When the spring was nearly over, and I was about to throw out my sand-boxes, something brought to

my mind that funguses of all kinds run out in time, as we know with mushroom-beds,—after the crop has exhausted itself in the bed, the spawn seems to run entirely out, and no more mushrooms come till new spawn or a new bed is made, and even in the old bed it is next to impossible to get new spawn to run it. Thinking on this, I saved my sand till this year in the boxes as they were, and used it again, and all through winter and spring have seen no sign of fungus. It is the first time that I have been quite free from it for some years. Both in the sand and in the charcoal there has been no sign of fungus.

My theory of fungus is, that there is something in the sand that is just fit for fungus to grow on, and that the seeds of the fungus are, perhaps, always in the air ready to grow on this matter whenever it finds it. As soon as it eats it all out and goes through its course, it must then disappear.

I had a laugh at your story about rattlesnake-bones giving Pete a good time in cutting his teeth, and thought you might say the absence of fungus this year in the old sand was only a chance, and that if I had tried new sand I might chanced to have no fungus this season in it either; but, on second thought, it seems to me reasonable, and so I send it to you to do what you please with it.

[It is reasonable—the best theory yet offered, and we may add that the experience of our own propagators this season partially confirms your views.—ED.]

PACKING PLANTS.

BY X. NASHVILLE, TENN.

THOUGH you express a disinclination to go into the subject, it has, I think, some aspects that you would not object to my offering a few suggestions on. In my experience of getting plants from a distance, I have learned to estimate at its full value good packing, and I never object to a reasonable charge for it. In fact, oftener than not, I append as a P. S. to my orders, "am willing to pay double-extra for extra good packing. In fact, I should be sorry to see the rule established making packing a part of the price, as I should fear it would lead to its being too often carelessly done, as is now the case with digging up of trees, when, according to my experience, the roots are frequently badly cut.

But what I wish to say now more particularly is, that you Eastern men often make us pay heavy express charges for heavy packing cases. I have just received a case from near your city which contains by actual measurement three and one third feet only, but which weighs forty pounds. In my freight bill I am charged for sixty pounds at ten cents per pound, so that for the six dollars I have paid, *four of them were for the case*. I have a case by me of the

same dimensions weighing but ten pounds, strong and well made; if such an one had been employed, I should have been saved three dollars of express charges.

I have often received things in heavy cases that would have done just as well in light mats, saving much thereby of useless lumber freight.

I hope you will not deem this idle "carping" at the "cheats" of nurserymen. I know that there is by far too much of this foolish creation of ill feeling between buyers and sellers, whose real interests, I am sure, are identical; but I think there is room for a reasonable reformation of a bad practice, which has, I am certain, its origin only in a want of thought.

["Trade's" communication, referred to in our last, was of a different stamp to the one above,—merely objecting in general terms to views expressed in another journal. "X." presents something tangible, and we cheerfully give his piece insertion.—ED.]

PRUNING HOTHOUSE GRAPES.

BY J. H., NATCHEZ, MISS.

MR. CHITTY's remarks are very sensible, and come to the point at once. Mr. Bright's system is very good in some cases; if, for instance, the rafters are short and the vines not forced. But I would like to ask how he could make these strong buds, that are not ripe till October, break well and have a heavy crop on next March and April? I have had old grapes myself, in Massachusetts, eleven months of the year, and I have cut a Black Hamburg bunch off a twenty year old vine, five pounds weight, highly colored.

Mr. B. talks about the rafters on trellises half covered with grapes; but a gardener that has a good border, and knows how to use his knife, can keep grapes from top to bottom, covering nearly every square foot of space every year, have his vines healthy and keep them from getting unsightly with spurs for twenty successive years or more. This I have seen done in splendid style at the late *Sir Wm. Engilby's* extensive forcing range of hothouses at Ripley Castle, near Harrogate, Yorkshire, by Mr. Henderson.

They talk about the grapes at some large places near London. There are grapes in Yorkshire far ahead of any thing I ever saw about there—earlier and larger. About fifteen years ago, my brother exhibited peaches in London, in March, from Eington Park, in Warwickshire. Dr. Lindley referred to them in a leading article in the *Chronicle*. They were sold for five shillings apiece the first time, and sold again to the Royal Family for seven shillings and sixpence apiece. I mention this to show you

that the "crack" places around London, to which reference is so often made, have long been behind the times, as compared with more local places.

INDIGENOUS GRAPES.

BY WILLIAM A. WOODWARD, MORTONVILLE, N. Y.

Is it not remarkable that while the desire to produce and introduce new and valuable varieties of grapes suited to our soil and climate has increased until it has become a mania; that so little attention has been given to the vines which the God of nature has planted so profusely around us? and which bring forth fruit in abundance, so that we, like those of the fabled golden age, have only to put forth our hands and partake, as our wants require.

The truth is, we are too much led away in our pursuit of the *summum bonum*, to seek for something that has its origin afar off. I will not say that it has more merit for being "dear bought," though with many that has its influence; no one can introduce a new American seedling grape without great expense, although it can ultimately be cultivated and propagated for mere nothing.

One reason for this unwillingness to believe that a native grape has any good qualities is the too common offensive and repulsive application of the term "Fox" to every one of the native species. An incipient step in putting down "humbug in grape culture" is to define the terms we use, and I call upon intelligent cultivators to unite in frowning down the use of this term altogether, it has no meaning when applied to the grape beyond that of sour. The fox who could not get the grapes he coveted, pretended he did not want them, alleging that they were *sour*. Hence, when we see a disappointed office-seeker, who tells us that he would not accept the appointment if offered to him, we say "sour grapes." The phrase fox or foxy, then, applies only to unripe grapes; beer that is turned sour is said to be foxed. The term has no reference to aroma or flavor, which many of our wild vines possess in an eminent degree. Among wine-makers it is desirable to obtain the rich aromatic flavor of the wild grape to give that indescribable taste to wine known as *bouquet*.* I know that some persons pretend that all native grapes have an aroma (stink) which reminds them of a fox; this is arrant humbuggery. I am a cultivator of flowers, and during the season my rooms are constantly decorated with the choicest from my garden, both for their external beauty and for their delicious perfume. Early in September I gather ripe grapes from a wild vine growing on my farm, and place them in my parlor for a similar reason. They perfume the house, the odor is delicious—is this foxy? is this the smell

of an offensive animal? Bah! if so, commend me to foxy grapes.† Acidity (all American grapes have a larger proportion of acid than those of Europe,) is the proper term to apply to unripe fruit. The *Vitis labrusca* is called foxy when it makes the mouth sore, and is caused by unripeness; when fully ripe it never produces that effect. I suffered extremely from this cause last fall, by eating a single bunch of unripe Concord, voted at the head of the list by the Fruit-Growers' Society of Eastern Pa., and justly considered one of the best indigenous grapes.

I will conclude this paper with an anecdote. Having found, in my rambles about the mountains of the Highland terrace, a wild grape, producing bunches resembling in appearance the Black Hamburg, which were ripe and luscious the first week in September, I showed them to several grape cultivators, who admired them very much, they supposing them to be from my grape-house, grown under glass. One gentleman, who raises grapevines for sale, in particular, ate them with great gusto, and remarked, that "if we could only get such a grape to grow in the open air, it would be worth millions of dollars to our country." Not wishing to mortify him before other persons, I proposed to show him something on the following day, which I thought would suit his fancy, and he brought several friends to examine the new native grape. They all pronounced it good—very good, but, my friend of the day before had only one objection, and that was, he said, peculiar to all native grapes, viz., *its foxy flavor*.

I appeal to all sensible grape cultivators to abolish the use of the word from henceforth.

LANDSCAPE-GARDENING.

No. 5.

BY GEORGE E. WOODWARD, NEW YORK.

To prevent any misapprehension of our meaning in these articles, we may as well state that we do not intend to advocate the superior claims of any one profession to practice that of landscape-gardening. We have not said, nor do we intend to say, that the artist, the architect, the civil engineer, sur-

*This is the *Bouquet Genanthique* of the French. A chemist could make a fortune by preserving the bouquet of our early native grapes. The difficulty with us is that these highly odoriferous grapes ripen five or six weeks earlier than the wine grapes of these mountains, and we are ignorant of the process of preserving this delicious fragrance.

†We have one vine known as the *Vitis Odoratissima*, which is full of flowers, and emits a fragrance like the *Mignonette*. I have never observed any vine of this species which bears fruit; the flowers are staminate.

veyor, or draughtsman is any more capable of successfully pursuing it, than the gardener himself. But we draw a wide distinction between gardening and landscape-gardening, and classify the latter under two separate and distinct heads, one of which has nothing more to do with vegetable physiology than the practice of law, while the other requires an intimate knowledge of all that comes within the gardener's profession.

We propose to show that the finished practitioner of a high order of landscape adornment requires a thorough knowledge of art, architecture, civil engineering and gardening; that one is as essential as the other; that landscape-gardening is not a gift, but can be acquired by those who have the ambition, energy and determination to succeed; that it is one of the refined and cultivated arts, requiring an educated taste and ability, and does not admit of a medium amount of information of any of the pursuits which it embraces. "Knowledge is easy to him that understandeth." With this explanation of our views, we solicit the most rigid criticism.

In treating the subject of landscape adornment in this manner, we advance no new theories, nor assume any new position; we are simply investigating and illustrating its theory and practice. But to our subject.

It is by no means possible to introduce utility as the one distinct and controlling feature in improving a country place, and it is just as absurd to carry utility to an extreme as it is to carry the ornamental; thus extreme utility in a road or carriage-drive indicates a straight line and a regular ascending grade.

In the natural style of landscape adornment this would be sacrificing both taste and economy, violating the principles of the beautiful, and destroying the harmony of natural lines and surfaces. If we sacrifice utility to economy, we should keep the grade line near the surface, or undulate with it, presenting a straight direction. Now, if we introduce absolute economy and utility in the location and construction of drives and walks, we have admitted an increase of length by rising and falling with the undulating surface of the ground, and this increase will be more or less as we range between a plane surface and one of a very rolling character. Two points of location indicate the position of a straight line, and whatever difficulties in grade, excavation, removal of trees, &c., exist between or beyond those points must be encountered; they cannot be avoided without breaking up the line. Therefore, unless we have a plane surface to deal with, neither utility nor economy, nor both combined, are arguments in favor of the use of a straight line. Now, if the element of beauty be combined with those of economy and

utility, we shall have the principles of a thoroughly practical road, as well as a thoroughly tasteful and inviting one.

It would hardly be deemed advisable to build a road without considering its cost, and if economy be a condition, then the same required increase of length would permit the use of the beautiful and make a really better road, by substituting a single gradient for the undulating grades necessary in the economical construction of a straight avenue. Practically considered, neither an undulating grade nor a curved line adds to the length of a road,—any thing that should enter into a computation between utility and taste. Unless carried to an extreme, the entire loss of distance over an air line need not exceed five per cent., and may be, in long approaches, as low as three per cent.; this is compensated for in the selection of the best ground that shall give uniform grade with the least possible amount of excavation or filling, and that shall avoid the necessity of destroying a tree or a single natural feature, and whose alignment shall be strictly in keeping with the lines of the beautiful. Considered as a matter of utility, economy, or taste, a curved line of road, properly located and adjusted, expresses each quality in a high degree, and the most perfect combination of them all.

The arguments against curved roads are based only on theory, and without a due consideration of all the facts that belong to the subject, and we are not willing to ignore a disposition to express the beautiful, nor in this intelligent and appreciative age do we wish to spend money to express utility.

In the right line style of landscape-gardening, a straight line and uniform grade would be in perfect taste and keeping—it being a rigid demonstration of architectural rules and forms, and utterly at variance with all illustrations to be found in the teachings of nature, as there is nothing, not even a solitary example in the whole range of the picturesque or the beautiful, from which a single conclusion can be drawn justifying the use of the right line or the right angle in any department of landscape embellishment. It is strictly an artificial form, and belongs to one particular school of landscape art, possesses its own rules of taste, beauty and utility, and is fast receding from the position it once held in controlling the entire design and arrangements of the grounds; but it must ever have a recognizable existence as the graduating link between the architectural lines of the house and the high order of beauty so successfully illustrated in the natural school of landscape adornment.

The position is entirely false that presumes upon a higher standard of beauty than that derived from

the study of natural forms, and this is just as applicable to any of the arts of design as it is to landscape-gardening. Any attempt to go beyond the limit of natural beauty meets with a certain failure, and we therefore conclude that any style or school of landscape adornment, founded upon a natural model, must be eminently successful, and that all others must take a secondary position.

AN OLD BOTANY AND OLD BOTANISTS.

BY L.

FRIEND EDITOR, were you ever overcome with the mania for collecting antiquarian treasures in the shape of coins, autographs, manuscripts or books? Did you ever enter heartily into the spirit of a friend who, when he discovered a dilapidated, rusty old volume on the stall of a dealer in second-hand books, clasped it to his bosom with the suppressed exclamation, "It's worth its weight in gold!" If you sympathize with this venial weakness of poor human nature thus longing to commit oneself with the past and realize antiquity, you can appreciate my delight on coming into possession of a tall old folio, in good preservation, bearing the title of "Caspari Bavhini Theatri Botanici Sive Historiæ Plantarum," etc., Basilea, 1658. The work is in Latin, the first of a series of volumes and the only one published, in which the author intended to describe and delineate all the plants at that time known, and to reduce them to their natural order, &c. It is esteemed a very important work, and contains descriptions and numerous well-executed wood-cuts of the grapes, sedges and some liliaceous plants.

The Botanical Theatre, or a History of Plants, of Casper or Gaspard Bauhin, exhibits unwearied industry, great zeal and learning, and in connection with the other publications of the author and his brother John, largely contributed to the progress of botany. In all the qualities that conduce to the advancement of science and render the student of nature the benefactor of his species, the brothers Bauhin were surpassed by none, unless by Linnæus, in their own department. They do not appear to have been men of much originality of mind, and can only be considered useful pioneers; but as such they are entitled to the gratitude of posterity, for as De Candolle has well remarked: "If they did not succeed in discovering any sufficiently methodical manner of classifying their knowledge, they at least rendered the want of some good classification more apparent than it had ever been before."

The illustrations with which this work abounds were designed and painted by Gesner, a century before, and engraved under his supervision. This ex-

traordinary man prepared fifteen hundred figures for his "History of Plants," and at his death they passed into the hands of booksellers who appear to have esteemed them the *sine qua non* for illustrating botanical books. A large portion of them appear to have done duty in an edition of the Epitome of Mathiolus in 1586 and 1590; again in the German Herbal in 1609 and 1678, and adorn the present Theatrum Botanicum of 1658, to re-appear finally in a more recent edition of 1744. The publisher, Joannes Konig, of Basle, true to the ruling desire among the trade to present his works as novelties, does not inform his readers that these pictures have graced a half-dozen publications through two-thirds of a century. Though his readers may not have thanked him for palming old plates upon them, we will ever prize them the more highly as the work of that most eminent scholar and naturalist who was so shining an example of the truth of the remark, that those who have most to do and are willing to work, find most time.

Conrad Gesner, one of the most learned and industrious of men, projected a Historia Animalium, in which he had for his object nothing less than a general history of animated nature, concentrating and critically revising all that had been done before his time, enriched with his own knowledge. Four well-filled folios of this work were published. This might have been considered an evidence of the most persevering and praise worthy industry if it had been the production of a recluse whose whole life had been entirely spent in the task; whereas, it was only one of many books written by a man who gained his subsistence by perhaps the most harassing and time-consuming of all professions, and who died in harness when he was not forty-nine years old.

Zurich was the field of his practice, which enabled him to cultivate his tastes for natural history. He founded and supported a botanic garden, collected a fine library, made numerous drawings, and gave constant employment to a painter and an engraver on wood. In the most of his laborious profession, the astonishing industry of the man found time for the principle works on which his fame rests. He lived honored and respected for his talents and benevolence in his native town, until an attack of the pestilence, which he had successfully combated in others, carried him off in the prime of his strength and usefulness. On the approach of death, he desired to be carried to his museum, where, amidst the treasures he had collected, and surrounded by the old familiar objects of his study, he breathed his last in the arms of his affectionate wife, for whose conjugal love and piety contagion and death had no terrors, with the calmness of a Christian philosopher.

The cuts in this old "Bauhin" are from the hand

of this devoted student of nature. They will not, however, compare favorably with a wood-cut of *Bauhinia* upon the page before me. This name was applied by Linnaeus, very happily, to commemorate the merits of the two *Bauhins*, for the genus is remarkable for its leaves, being generally divided into two twin lobes. The species are usually twining plants, found in the woods of hot countries, often stretching from tree to tree like living cables, forming with other plants an almost insurmountable obstacle to the traveller who would penetrate the recesses of a tropical forest. The flowers are often very beautiful, and the plant has long been cultivated in the hothouses of Europe, but is too impatient of the treatment received to flourish and produce its noble blossoms. Nor will these cuts of our old folio bear comparison with a beautiful cut of the *Gesnera grandis*, now before us. The *Gesneraceæ* inhabit the damp, hot parts of South America; in many cases overrunning trees with their rooting stems in the manner of the ivy. The *Gloxinias* belong to this order.

Well deserving was Gesner, the Pliny of Germany, of the honor of an order of botany higher than any order of knighthood; he also first suggested that there existed in the vegetable kingdom groups or genera, each composed of many species, united by similar characteristics of the flower and fruit. Taught by him, botanists began to understand that the different families of plants have among themselves natural relations, founded upon resemblances and affinities, and that the most obvious are not always the most important. The distinction of species, the establishment of genera and of natural families seemed to follow, of course, after these principles were once established. Clusius was, however, the first to describe plants with precision and accuracy, neither faulty from superfluous terms, nor from omission of important circumstances.

The common tulip of our gardens, the *Tulipa Gesneriana*, was named from Gesner, and the *S. Clusiana*, an allied species, from Clusius.

Carolus Clusius, or Charles de l'Ecluse, was another devoted botanist, most laborious and useful, and ranks among the most celebrated of the 16th century. He was born at Antwaht, 1526, resided and travelled in France, Germany, Spain and England, studying the plants of these countries, and became curator of the botanical garden at Vienna, by invitation of the Emperor Maximilian II. He afterwards became Professor of Botany at Leyden, and died in 1609.

Few men suffered more in following a favorite pursuit than Clusius. He has on this account been called "the martyr of botany." As early as his twenty-fourth year, through excessive fatigue, he contracted a dropsical complaint; at thirty-nine, he broke his right thigh during one of his botanical

rambles, and a short time thereafter, his right arm. Whilst at Vienna, he dislocated his ankle, and eight years afterward dislocated his right hip. For this he was treated unskillfully, and ever afterwards was obliged to wear crutches. Want of exercise brought on other diseases, and to crown all, through over-exertions in early life, he had contracted a hernia which troubled him to the end of his days. But his bodily infirmities never diminished his mental activity, and he continued teaching and writing to the very last. Not a very encouraging experience for the young botanist, the reader may remark, but still an example of the pursuit of science under adverse circumstances, highly creditable.

Clusia, a genus of plants of the natural order *Guttifera* (balsam trees) was named after Clusius. They are trees and shrubs, usually parasites, and yielding a viscid juice of a balsamic flavor. The *Clusia rosea* is a native of Guiana, St. Domingo, and other parts of tropical America. The whole tree is very handsome, and but "few fruits offer so beautiful a piece of mechanism," says Loudon. It grows on rocks and frequently on the trunks of trees, where its glutinous seeds, deposited by birds, take root as does the miseltoe. If they do not find sufficient nourishment, they spread on the surface of the tree till they find a decayed hole or other lodgement wherein is deposited a small portion of soil; the fertility of this being exhausted, a root is discharged from the hole till it reaches the ground, where it fixes itself, and the stem becomes a large tree. Why this genus was selected to honor Clusius, we know not, unless in its reliance upon others for assistance to aid its growth. It may be thought to resemble the botanist, who, in his late years became so infirm and dependent. Perhaps the nomenclator thought that a tree producing balsam should be selected to commemorate him who suffered so much in the preservation of his favorite science, and so often needed its healing aid.

Cæsalpinus, who was contemporary with Clusius and Gesner, proposed to form species into classes, though his method proved imperfect, having neither simplicity nor unity. *Cæsalpina brasiliensis*, the Brazil wood so largely used in dyeing, commemorated this Florentine lover of nature.

John Bauhin, the elder brother of Gaspard, a friend and pupil of Gesner, composed a history of plants, evincing great learning and accurate investigation. Clusius and John Bauhin had imagined something like a genus of plants formed by the grouping of similar species, but Gaspard Bauhin expressed this more decidedly in remarks upon generic descriptions. His work, the old folio before me, the result of forty years' labor, was thus of great importance to Linnaeus, in preparing his system of botany, and leading the way to the vantage ground on which we now stand. I prize this old volume.

The Gardener's Monthly.

PHILADELPHIA, JUNE 1, 1861.

✍ All Communications for the Editor should be addressed, "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

✍ Persons sending two new Subscribers for 1861 in addition to their own, with \$3.00 can receive a copy of our First Volume, (1859) free. All persons who have paid their subscriptions for 1861 by sending two new Subscribers and \$2.00 can receive a copy of the same.

✍ Our Subscription list for Rathvon's Entomological Essay is fast filling up, and as we have only intended publishing a limited number, we would desire all those who may wish to have the work, to send their name and address as early as possible.

INFLUENCE OF CLIMATIC CHANGES ON FRUIT CULTURE.

It is a well-known fact that near all our older settled towns, and in long cultivated districts, it is much more difficult to raise fruit than it was at a remoter period. Not only is the crop annually more uncertain, but many diseases affect trees that were unknown years ago. This fact naturally suggests the inquiry whether more favorable circumstances for the general health of fruit trees formerly existed than now do; and, if so, what were they?

The popularity that has been obtained for chemical studies, has led most students of Pomology to look to the soil for a solution of our difficulties, and has led to a pretty general belief that in old and long cultivated districts disease and unfruitfulness arise from the exhaustion of some specific matters in the soil; but when we see, as we often do, tracts of land which have till our time retained their virgin forests, newly broken up and brought into cultivation in those districts, and when planted with fruit, precisely as the successful orchards of the past age were, and yet fail,—although we may admit that the absence of some particular element may produce disease in some instances, we cannot agree that the reason is sufficient to cover the whole ground of inquiry, and we have to look beyond this for some more wide-spread and general principle of evil, and it proves, in most, perhaps all cases, that no explanation is offered, but some facts can be adduced to show it not universally applicable.

The most remarkable instance of freedom from disease in fruits, is when they are under orchard-house cultivation. So far as general experience goes, the peach is free here from the yellows, the blister, and the curl; the plum produces no knots; the apricot gum; or the grape suffer much from mildew or

rot; and all of this results from the single fact of the trees being enclosed in a glass house. If we ask ourselves what is the difference between trees grown in a house and others grown in the open air, we can only answer that the house necessitates a moist atmosphere, while the external air is much dryer. Some might say the house is guarded against sudden extremes of temperature, but it is not so. In true orchard-houses, where no artificial heat is applied, the mid-day temperature is often, in April, 80°, and the night temperature but a degree or so above freezing point; an extreme, and with greater rapidity of change, that is seldom or never experienced by trees in their natural season of leafing, as the instance is supposed to be; so that we have still no alternative but to refer to the moist atmosphere for their preservation from disease. It has been recently suggested by an experienced writer in the *Gardener's Monthly*, that it was not so much the regularity of moisture in a grapery that enabled a grape to resist mildew, which would be thus destroyed in the open air, as it was the absence of dew under such circumstances; but it amounts to the same thing, as those who are acquainted with the theory of dews know that there can be no such deposit, until a comparative atmospheric dryness has previously existed. Look at the subject in what manner we may, we can at last attribute the superior health and freedom from disease of orchard-house trees only to the fact that they are grown in an atmosphere more saturated with moisture than are trees grown in the open air. Horticultural science supports the practical inferences.

It is scarcely credible what an amount of moisture a plant exhales or perspires. If a healthy grape vine, in a twelve-inch pot, be taken from a vinery in July, rather dry, watered and weighed, then set in the open air, and the pot surrounded by non-conducting material, so that what moisture evaporates shall be through the foliage, we shall find on re-weighing at night that for every five hundred square inches of foliage-surface, there has been a loss of about *two pounds* of water, more or less, according to the state of the weather. All of this moisture passes through small pores, or stomata, on the surface of the leaf, and as if nature herself would teach us the importance of studying the effects of evaporation, we find that those plants naturally adapted to moist, shady places, have their leaves with an abundance of small stomata, while plants she has formed for hot, dry places of growth are furnished with thick leathery leaves, and few stomata to admit of evaporation.

As in animals, so with plants, it is well known that while a moderate perspiration is conducive to health, and, in fact, necessary to the system, excess-

ive and long-continued perspiration, though the system be continually and regularly supplied with liquid to make up the deficiency, is, nevertheless, exhaustive of vital energy, and ultimately destructive to life; and the perpetual object is rather "not to drink too much," and to check evaporation by coolness and shade.

In the vegetable family, where light and heat are so essential to health, the moister the atmosphere, when plants are in active growth, the more is evaporation checked, and the system loses no more than is just necessary to keep the vital forces in proper action; but the moment exhaustion commences from over-perspiration, fungi and the other destructive agencies of nature stand ready to commence their dissolving duties, and the diseases we lament are the natural result.

On a large continent like ours, where most of our fruit districts are removed from contiguity to large bodies of water, agricultural progress must, necessarily, render the atmosphere dryer in the course of time, and fruit-growing be less successful in a corresponding ratio, unless precautions be taken to adapt practice to the changed circumstances. The most vigorous, luxuriant and healthy vegetation is always in swamps and tropical countries, where rains and a moist atmosphere are particularly characteristic, and the climate it produces almost unfitted for human life.

There is the same mutual action between heat and moisture in the earth and atmosphere as in other branches of creation; the degree of one is regulated by the condition of the other, and there is no doubt that the failure to render meteorology a real science—in other words, to find the fixed laws that regulate the changes we experience, arises from the overlooking of this fact. Records of atmospheric facts have been carefully kept for years, but the condition of the earth at the same time has been neglected.

The moisture in the atmosphere is regulated by the heat of the latitude, but, on the other hand, the heat of the atmosphere is in a great measure tempered by the quantity of water evaporated from the soil. The drier the air the colder is the climate; and, of course, the drier the soil, the drier the air becomes. Records of many years show how great is the difference between the moisture in the air of cold climates and that of tropical ones. About twenty-four inches of rain per annum is a fair average for London. Approaching the tropics nearer, say Algiers, about twenty-seven; the middle of Arkansas, fifty inches; until, reaching the equator, about one-hundred inches per annum becomes the average fall. Such a large amount of moisture could not exist in the atmosphere without the aid of excessive luxuriance in the vegetation of the equatorial region,

which by its millions of vegetable pores, fed by strong and rapid-growing roots, brings up water from many feet below the surface, and gives it out to the atmosphere freely, under the influence of the tropical sun. If the trees were removed from such a region, the surface of the soil would become strongly heated, and all the moisture the air would receive would have to come from the few inches beneath the surface, drawn up by the slow process of attraction as the surface dried; and as evaporation is well known to favor coolness, such a process would, necessarily, soon show a marked effect on the climate.

That it is really the moisture of the atmosphere that regulates climate is also shown by a reference to other countries; London, though near 50° north latitude, seldom has the thermometer below 10°, while Philadelphia, in 40°, at 10° nearer the equator, ranges about zero. Surrounded by the sea and other moistening influences, less evaporation, and consequent loss of heat from the soil and its vegetation, takes place than with us. Even when the thermometer does fall very low, such aid does the moist atmosphere afford the vegetation of that region, that it is rendered capable of resisting the loss of heat, that vegetation in our dry climate would certainly suffer. The *London Gardener's Chronicle* has recently stated, that although the thermometer fell there, last year, to 4° below zero, the *Camellia japonica* stood out, unprotected, without injury. In Philadelphia it is killed just below the freezing point,—even the hardier *Euonymus japonica* cannot struggle through.

We have said that a moist climate favors a vigorous, luxuriant, and healthy vegetation; and shown that such a vegetation reciprocates by rendering a climate moister, in turn, than it otherwise would be; and the inference is palpable that with the progress of draining, cleaning off of forests with its vast amount of perspiring foliage, agricultural improvement, and wise sanitary regulations, the growth and vigor of such vegetation as prosper best in a moister climate must, in some degree, decline,—and what is the remedy? We must endeavor to suit varieties to the altered conditions, selecting such as have fewer pores, harder leaves, a firmer texture of wood, and are less liable to over-perspiration; choose shadier places, protect exposed spots by shelter, either of fences, buildings, or trees; keep soil deeply stirred on which the trees are to grow, that a good supply of moisture may be always in reserve; plant near the sides of water-courses, dams, running streams, springs, &c., which favor a moist atmosphere, for choice fruits; and where the expense of care is not so much an object, syringe freely, and employ the garden engine about the trees, when dry weather is "the order of the day;" look after kinds

that ripen their wood early in the season, so that they have not a profusion of soft, succulent wood and leaves when our summer season brings its dry time; mulch freely about trees, and occasionally water the mulch, so that the sun, by drying the mulching surface, keeps a continual vapor arising about and through the branches of the tree above it. These, and many other matters that will readily suggest themselves to such reflecting minds as most good gardeners possess, will do much towards bringing fruit-culture back to the successful times of our forefathers, and compare with the good times all those of our present day enjoy in the newer soil and *climate* of the far-west territories.

If any thing more were necessary to carry conviction to the minds of our readers that the interruption or obstruction of the proper processes connected with the respiration of plants is the main cause of most of our modern difficulty of raising fruit to the perfection that our forefathers did, we could produce special illustrations in abundance, but we will refer to one—the grape-vine. A cubic-foot of the ripe wood of the *foreign* grape weighs about four pounds; but the same bulk of the wood of the native grape weighs nearly *six pounds*. With different varieties the results vary, but the average relative proportion is about the same. One would suppose from this, without any knowledge of the fact, that the large, coarse cells of which such wood must be composed, would perspire, or evaporate moisture much more easily than the smaller-celled and more compact wood of the native vine, and that the liability to disease in a dry atmosphere would be much greater in the foreign than in the native variety. Experience shows that it is just so. Side by side, the tender-celled foreigner “wilts” on a dry day, and in an exhausted soil, before its hardier neighbor, and mildew, rot, and other diseases follow with proportionate speed. But remove the said vine to a vinery where a moister atmosphere prevails, or suffer it to run over a tree where the ten thousand pores of neighboring friendly leaves perspire and make a sort of artificial vapor about the vine that it never knows on a trellis, stake, or frame; and the extra vigor, health, and luxuriance is striking and complete.

We have occupied more space with the subject than we usually devote to this department, from a sense of its great importance, and hope the scientific pomologist will give it the attention we think it well deserves.

THE OREGON SYCAMORE MAPLE.

Of all trees for general purposes, the maple class seems best adapted to our climate. As shade trees, the Red, Silver, Sycamore, Norway and Sugar are deservedly popular. Very few of the

newer ones are likely to interfere with their reputation, unless, perhaps, it be the Oregon Maple, *Acer macrophyllum*. In England it is merging out of



the class of “new and rare plants,” and becoming well known and appreciated. For avenues it is said to be very much esteemed, and extensively planted.

In our own country it is not yet much known, and has not been planted to any extent, principally through its high price, and again from a mistaken idea that it is not hardy. Newly introduced or sickly plants of even the hardiest general character, frequently get killed, and we have no doubt that when plants of the Oregon Maple die, it is from this cause. The tree from which we made the above sketch last summer had been growing near Philadelphia the past three seasons in an exposed situation, and unprotected.

The leaves are very large,—our cut is but one fourth the width of the leaf from which it was taken; but it will serve to show the general form sufficiently to distinguish it. The whole habit and appearance, both of leaves and tree, give the appearance of a very luxuriant form of the English Sycamore Maple, *Acer Pseudo-platanus*.

It is a native of the whole Pacific Coast, from upper California to Frazer's River. It is said to have been first described by Pursh, though Menzies

and the expedition of Lewis and Clark are said to have also discovered it.

In its native country it is found in the alluvial soil of river bottoms, and ranges from fifty to ninety feet high.

It grows readily by layers of the strong summer shoots, and there is no reason why it should not soon become plenty and cheap.

Straps and Queries.

Communications for this department must reach the Editor on or before the 10th of the month.

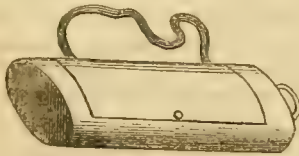
The Editor cannot answer letters for this department privately.

DRYING SPECIMENS OF PLANTS.—A "Subscriber" says: "Please inform me through the *Monthly*, which are the best and most convenient magnifying-glasses or microscopes to be used in botanical analysis, and cost of same. Also if there is any cheap form of press manufactured convenient for applying pressure to drying specimens."

[A pocket lens, magnifying four or six times, is commonly used for field examinations, costing from one to three dollars, and may be obtained in all large towns where optical instruments are sold.

As we are sure in these days of revival of botanical studies there must be many besides a "subscriber," who are interested in the subject, we extract details in full from Balfour's Manual, an English work:

"The *Vasculum* is a japanned tin box, which should be of such a length as to receive a plant the full size of the herbarium paper; it ought to be convex on both sides; its capacity may vary according to the fancy of the collector, but one about 20 inches long, by 8 or 9 inches



wide, and 5 deep, will not be found too large; it should be furnished with a handle at one end, and a couple of rings, through which a leather strap can pass to attach it to the shoulders; the lid should be large and fasten with a little catch.

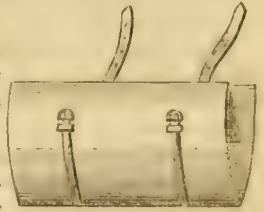
"The *Trowel, or Digger*, should be about 7 or 8 inches long; the spud $2\frac{1}{2}$ inches long, $2\frac{1}{2}$ inches wide at the top, narrowing gradually to 2 inches at the bottom. It should be provided with a leather sheath, fastened to the waist by a strap, and the trowel also attached by a long string.



"The *Field-book* is intended to press such specimens as will not carry home without undergoing injury. Its outer cover may be formed of two very thin boards, and secured by straps so as to

give pressure. It should be inclosed in an oilskin case to protect from wet; and may be carried in the pocket, or attached to the neck by a string.

"*Drying Paper.*—We have found Benthall's paper to be excellent for this purpose, and always employ it. A sufficient stock should be provided, so as to have one set of papers drying whilst the rest are in use. A convenient size for general purposes is about 18 or 20 inches long, and 11 or 12 broad. It is as well, however, to be provided with more than one size.



"The *Wooden Boards* should be the exact size of the paper; twelve should be three-eighths of an inch thick, and two, which are to be employed on the outside, three-fourths of an inch. Some prefer sheets of tin to the use of boards on the inside, and they are certainly lighter and more convenient for carrying when on an excursion.

"The *Collection* should always be performed during fine, dry weather, as plants never keep well when collected wet with either rain or dew. When practicable the entire plant should be collected, and the roots be carefully washed to remove any dirt that may adhere to them, and then dried. In cases where the entire plant is too large for collection, such portions as best illustrate its *generic* and *specific* characters should be gathered. In most cases it is necessary to have specimens of both flowers and fruit, particularly in the orders Leguminosæ, Umbelliferae, Compositæ, and others. In cases where the flowers appear before the leaves, it will be necessary to preserve the young twigs bearing the fully-developed leaves as well as the flowers; and when the sexes exist in separate flowers, both male and female flowers should be collected. When bulbs or tubers abound in mucilaginous matter, it will be found advantageous to enclose them in a little paper, so as to keep the drying paper free from dirt. In the collection of Ferns two fronds should be selected,—one to exhibit the under surface with the re-productive organs, and the other to show the upper surface; a portion of the rhizome should also be preserved. Grasses and sedges are generally easy of preservation; the entire plant should be collected, and when it exceeds the length of the paper it may be bent and rebent without injury. If on returning from an excursion, circumstances do not admit of immediate pressing, avoid putting the plants in water, *they will keep much better in the vasculum*; and should the weather be dry and sultry, they may be sprinkled with a small quantity of water. When portions of shrubs or plants of woody texture are required to be

preserved, the bark should be slit up and the woody portion removed.

"The Pressing.—In reference to the best means of effecting this branch of the process, the greatest difference of opinion exists. The pressure however ought not to be less than one hundred pounds, and heavy weights should be used to effect it. A rope, tightened by a rack-pin, instead of leather straps, attached to the boards used as a press when on excursions, will be found very serviceable, as in case of an accident the straps may be difficult of replacement. Withering considers the pressure should be gradual, and this accords with our own experience. Some make use of a press, and obtain the requisite degree of pressure by the employment of screws or wedges; others adopt the more simple contrivance of a flat board and some books, which we have found to answer very well. We have even heard of a gentleman acting the part of a press himself, by reposing at night on the plants he had collected during the day.

"In our opinion, one of the simplest and best methods consists in the use of a box exactly the same size as the paper and board employed; the requisite degree of pressure being obtained by the gradual addition of pebbles or sand, and of these we have found the former to be the more convenient.

"Arranging and Drying.—First place a parcel of four sheets of the drying paper upon one of the two thicker boards; then take a sheet of the drying paper and lay it evenly upon it; and having selected a plant for preservation, place it on the inside of the right-hand sheet, and arrange the different parts of the plant so as to illustrate its principal generic and specific characters, imitating as much as possible the natural appearance of the plant; as each part is arranged, retain it in its assigned position by means of small pieces of paper about four inches square, upon which a small weight may be placed. Having completed the arrangement of the plant, remove the weights one by one, and allow the fly-sheet to cover it; upon this place another parcel of four sheets, and proceed as before to lay out another plant. When as many as a dozen plants have been arranged in this manner, place one of the thin pieces of wood or tin upon them, and proceed as before until a sufficient number have been prepared for pressure; now place upon this one of the thick outer boards and the box containing the pebbles, which should be added to from time to time that the pressure may be gradual. After twelve hours' pressure, remove each plant with the forceps to dry paper, and proceed in exactly the same manner as before described, taking care to open out all crumples and rectify previous mistakes, arranging the plant as much as practicable in imitation of nature. After intervals

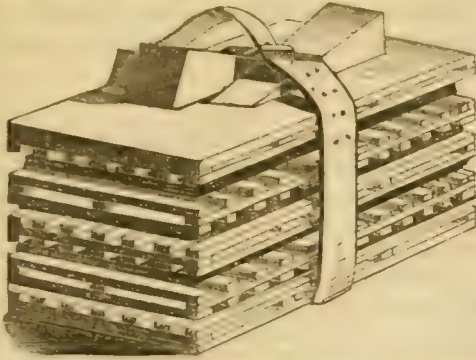
of twelve hours, the same process should be repeated, gradually increasing the pressure until the plants are dry, which will generally be the case in a week or ten days, but varies with different plants. Some will dry with only one or two changings, whilst others occupy a long time; and some, as Orchids, Sedums, and Sempervivum, are exceedingly difficult to dry at all. To accomplish the drying of these, heat is generally employed; and they are submitted to a process of ironing with much success. Some speak very highly of this mode of proceeding in general, being of opinion that it preserves the colors of the flowers better than the ordinary process. From our own experience it seems highly probable that different flowers require particular temperatures to succeed well in preserving their colors; and the method of treatment peculiar to each case is only to be acquired by practical experience. Some succeed in preserving the colors very well by the use of heated sand.

Preservation.—When the specimens have been sufficiently dried, they should be carefully transferred with the forceps to a sheet of good thick white paper, in which they may either be preserved loose, or fastened to the right-hand sheet of the paper by means of thread, glue, or gum. Of these we prefer the former, as the two latter are apt to attract insects, which will in a very short time completely destroy an herbarium; to guard against their attacks, it is as well to brush the plants over with a spirituous solution of bichloride of mercury, consisting of 3 ij. to the Oj. Some prefer keeping the plant loose in the paper; they are certainly easy of examination under these circumstances. The botanical name, natural order, habitat, and date of collection, together with any other note of interest, should be written on the right-hand corner of the inner side of the sheet."

To make the article complete, we subjoin the following from a recent number of Dr. Lindley's *Gardener's Chronicle*:

"The specimens are first placed between sheets of paper (any will do, Benthall's is best), until all their moisture is expelled. In this process they lose their color, but retain their structure, and often the form of even delicate parts. When they are thin they dry quickly in a room, but when fleshy they are difficult. This difficulty is much diminished by steeping them for an hour in a strong solution of corrosive sublimate before they are first pressed. The same process may be advantageously adopted with all plants in damp weather, when it is difficult to prevent specimens from rotting; it will also destroy the disposition to throw off their leaves, which is uniformly shown by some plants, especially conifers and heaths. The drying process by shifting plants

from sheet to sheet being tedious, a ventilating apparatus, of which the following is a representation,



is now very commonly used. You may make it yourself, with a couple of boards and a bundle of laths; and you can use a piece of rope instead of a strap. At the time of drying, a plant should be accompanied by a written label, stating its name, when and where it was gathered, and any other particulars which are not discoverable by an examination of it. A collection of dried plants, if carefully formed, perfectly kept, and correctly named, is invaluable to a student. The mode of keeping a herbarium is this: having formed a collection of species thoroughly dried, let them be washed with a large camel-hair pencil, dipped in spirits-of-wine, half saturated with corrosive sublimate, unless they had been dipped in a solution of it previous to drying. When parts are fleshy, or flowers are collected in heads, such parts should be soaked with the tincture.

Having glued down as many specimens as may be convenient, take them carefully out of the waste paper, and look them over to see that none of the parts are loose; if they are, fasten them down with the slips above-mentioned, which are so adhesive that it is merely necessary to moisten and apply them. In all cases, too, strap down the main stem, unless it is covered with hairs, in which case straps are superfluous. The next operation is to write near the lower right-hand corner of the half-sheet the name of the plant, and in some convenient spot near the specimen itself the place in which it was gathered, or any other particulars connected with it. In small local herbaria printed forms or tickets are sometimes used, in which the name and all other particulars are included; such tickets should be pasted (not glued) upon the lower right-hand corner. The next point is to arrange the half-sheets in genera. Sheets of stout brown paper, cut a little larger than the half-sheets, must be provided as covers. At the lower left-hand corner of each paste a slip of white paper, and write upon it the name of the genus, to

which some add that of the natural order. Then put into each generic cover all the half-sheets belonging to it, and the operation is complete. The right-hand tickets or names on the half-sheets give the species, and the left-hand names on the whole sheets give the genera; and either can be rapidly referred to without the one interfering with the other. To receive the covers of genera, wooden cabinets are constructed, with shelves, on which the covers can be placed according to their natural orders.

ADVERTISEMENTS—*Henry Kohly, Greenville, Ill.* writes:—"I feel called upon to give you the particulars of a very unpleasant thing that happened to me with one of your advertisers. I will state it as briefly as possible and leave you to decide what is best to be done. Induced by the cheapness of grape cuttings in the card of J. B. Good, page 19 of the February number of the *Monthly*, 1861, and besides, encouraged by his Essay on the "Marion Port Grape," in the same issue, where he kindly offered, free of charge, a few cuttings of the same to applicants, I concluded, from the whole, that he was an honest man, and sent him, the 11th of February, \$2 in bills, one on a Canadian bank, requesting him to send me for the same, cuttings of five or six of the varieties quoted in the same card at \$2 per hundred, at the same time asking for one of his catalogues, and prices of other articles he might have for sale. Well, I waited for an answer (which you will find enclosed)—to the last part, but without any allusion to the cuttings nor to the money sent. At first I did not notice it, and expecting every day to receive the parcel, I wrote him a letter mailed the 11th of March, enclosing one dollar again for 1 Delaware, 1 Franklin, and a few Delaware cuttings in accordance with his card on page 3, January issue, requesting him to send them along with the first order if not already sent. I waited long and had no answer, and nothing came. Now, I thought something was wrong somewhere, and wrote to him on the 28th of March for an explanation—whether he had received the money or not; or whether, if he had received it (as I think he did, since he received and answered my letter), he intended to swindle me out of it, and requested an immediate answer. To this again there was no reply, though there has been time enough for it. Now, Mr. Editor, I apply to you to see his answer and handwriting; certainly you have some specimens of his "genuine" in your possession. Compare them. Has there been a forgery in the answer, or is the man a swindler? If such is the case, he ought to be denounced to the readers of your valuable paper. One dupe is enough, without letting others fall into the same snare. But then, as is the case with me, it has a tendency to weaken our

Western liberality and confidence towards Eastern nurserymen; and for one swindler, many honest and upright men will suffer from our want of confidence.

By the way, I would just observe to you, that our esteemed friend, J. Smith, when talking of Highland (twenty miles from here) as of a "village," is rather funny; for, as compared with the place where he and I hail from (Greenville), though it is a county-seat and incorporated as a town, might well be called a hamlet. Highland being in wealth, population, commerce, industry, about thrice as much as Greenville, and more enterprising, to boot. But I fear my letter is too long already, so I conclude to stop now and present you my respects and well wishes as the editor of a very useful paper, to all interested generally and to me in particular.

You will notice the date of my first letter was February 11th, 1861, based on his February's card; and his answer to my letter says, "Yours of January 30th,"—an impossible thing, as the card alluded to did appear but in February's issue. This discordance of dates might, perhaps, lead to a clue, as I never wrote him—in fact never noticed his name before that time."

[The following is the letter referred to, and accompanying the above communication:

"York, Pa., February 16th, 1861.

MR. H. KOHL: Dear Sir.—Yours of January 30th was duly received. My circulars are all sent out, and I have no new ones printed yet, but the prices of grape-vines as per notice in *Gardener's Monthly*, are the lowest that I can furnish them at.

Yours truly, JOHN B. GOOD."

We have, as our readers know, hitherto declined to interfere between advertisers and their customers, principally because there are often faults on both sides, or at least each party generally thinks the other in fault, and it is impossible for a journal like ours, without a knowledge of all the facts, to decide justly. Moreover, we think that in dealing with a stranger who advertises in any paper, it is not necessary to lay aside the ordinary rules of caution that we certainly should employ in dealing with any other stranger whose sign we might see in a public street. Under no circumstances is it prudent to send money to a party with whose general reputation we are unacquainted. While thus placing our advertising columns on the freest basis, and denying the right of complaint through the reading pages of our journal when, disregarding proper caution, parties find themselves deceived, there is no reason why we should continue to insert advertisements from parties who do a general business on dishonest principles. It is our duty thus far to protect our readers. We have

received many letters from parties all over the Union, similar to this one, and we select it for publication because it seems to tell a straight-forward story, and to have just grounds for it. If Mr. Good has any defence to make, brief and to the point, we shall do him the justice to insert it.]

VERBENAS THROUGH WINTER—*S., Montmorenci Falls.*—Verbenas are the most coquettish of garden flowers. When in the right humor they will strike roots into almost any soil with genuine affection; but many with yourself find them too often heartlessly unreliable. We believe the best way to bring them to terms is to layer a few into pots of rich soil in June or July. About the first of August, cut them off and cut down the layered plants so as to make them send out a new young growth, which will usually strike root well and make plants that will keep over the winter without much difficulty.

HANGING BASKETS—*J. S., Neosha, Dodge Co., Wis.* writes:—"I am a new subscriber to your valuable paper. I would like to know the process of raising and managing plants and vines in baskets in a greenhouse, as I would like to practice on them but do not understand the mode of treatment. If you would give me the process through the columns of the *Gardener's Monthly*, you would oblige me very much, and perhaps some others that are as verdant as I am."

[Hanging baskets, when made of open work, should first have a layer of moss, with the green-face outermost, placed as a lining all around on the inside of the basket, and any light, porous soil filled inside, in which to set the plants.

The only peculiar after-treatment in a room or greenhouse is not to keep them in any very dry, sunny place, but yet in a spot where they will have all the light possible. They will generally require a daily syringing, and about once a week should be taken down, and for a few minutes entirely immersed in water. Insects are troublesome at times, and soon disfigure basket plants, especially the minute red spider; these should be looked after on their first appearance and destroyed at once.]

THE WEATHER AND THE CROPS.—We owe our thanks to many friends who have kept us posted on the state of the crops; but as most of these generally favorable notes were before May 1st and 2d, we presume the frost of those dates will tell a different tale in most localities. Here, strawberry, cherry and all fruit blossoms which expanded were totally destroyed.

NOMENCLATURE OF FRUITS.—A respected correspondent writes, inquiring whether the *Gardener's Monthly* does not commit the same fault it objects to in "works of standard authority," namely, "admitting descriptions of fruits from irresponsible sources" into its pages; and refers to our notice of the Missouri Janet, at page 143, where the source is not named, as an illustration.

The aims of a newspaper or magazine are different from those of such a work as we had reference to. It is the duty of a journal to give its readers every bit of "rumor," "gossip," "stray waifs," or items that *may possibly* have an influence on horticulture. An opportunity is then afforded to "compare notes," and in a few weeks the *exact facts* can be ascertained and corrections made if necessary. But in such a work of "standard authority" as we think pomology ought to possess, if it now has not, nothing doubtful should be admitted. Its duties should commence where those of a magazine end. Certainly, if we were editing a work on fruits, two-thirds of what we think perfectly right to publish in the *Gardener's Monthly* would be excluded from its pages. It should be emphatically a work of reference, not a mere receptacle for stray news.

Our friend says, "while writing, I make the suggestion, though not for publication;" but as others may entertain the same idea as he has, it is but right that we make allusion to it.

Since writing the above, we have received a note from Mr. Downer, inquiring whether our regret that "descriptions from irresponsible sources should be admitted into works of standard authority," was intended for him. We never write by innuendoes, and mean only what we say. Mr. Downer has no cause of complaint, or we do not understand the object of a descriptive book of fruits. A party may be perfectly competent to describe a fruit, and his honesty and credit in the matter of its being a seedling, and, in his opinion, a distinct fruit, be of the highest standing; but that it is *certainly* distinct from all others, and distinct enough to be embraced in a standard work of reference on fruits, should, we think, rest, in a great degree—some little at all events—on the "responsibility" of the author, and we consider all other parties "irresponsible."

The mere fact of a reference to the authority from whence a description is taken, does not remove the responsibility, unless we are to understand the writer to be a mere "compiler" of the opinions of others, and not the "author" of an original work. The works we allude to are not viewed as "compilations." At any rate, nine-tenths of the community receive a fact as such in "Fruits of America," not "because it was contributed by Mr. Downer," or any other party, but "because it is in Downing."

This is as it should be, and it is with the best intentions of adding weight to such excellent authority that we have thought it our duty to suggest to pomological authors, that the public look to them for a reasonable amount of responsibility, and very little to their contributors, however excellent they may be.

GRAPE TRELLIS—*B. F. B., Cleveland, O.*—"Being one of your subscribers, I take the liberty to ask whether it is necessary, when a grape vine is planted against a house, to have the trellis some inches from it? Is six inches enough, or how much?"

[Grape vines seem to thrive best when they are growing between the wall and the trellis; but they are seldom trained this way, as it is so often desirable to take the whole vine down from the trellis for various purposes, and the rule is to grow them on the outside; in which case, the trellis may be as close to the wall as convenient, to tie the shoots to.]

GAZANIA SPLENDENS—*P. W. P.*—Is the *Gazania splendens* half hardy? Can any out-of-door protection keep it through the winter?

[The least frost destroys it, but it does not require much heat above freezing point to keep it through the winter.]

INSECTS—*J. H., Madison, Iowa.*—Your insects from an apple tree were crushed to a paste when they reached us. Insects should never be sent loose in a letter, but be enclosed in a pill-box.

GRAPES—*Wm. Young, Hookstown.*—Will you please to tell me, through your valuable journal, what causes those specks on my grape-vine leaves? They done exceedingly well last year. They are four years old,—bore a few bunches last year.

[There is no trace of disease in your grape leaves. The spots must originate from some external cause, probably a hot burst of sun on a too dry atmosphere. Keep the syringe going amongst them frequently.]

WINE FROM THE HAMMONDSPORT (N. Y.) WINE COMPANY.—*From Mr. Weber,* the manager of this prosperous concern, we have received a case of their "Isabella," which, though only one year old, our friends, who are good judges, pronounce excellent. At many fairs, horticultural meetings, and other assemblages of parties interested in wine manufacture, this season, we have been honored as an outside member of many "tasting" committees, with opportunities of judging the state of the "latest offerings," which, to our taste, have so varied between vinegar, cider and the fashionable summer syrups, that we were getting "out of conceit" of the ability of

Eastern manufacturers to cope with Western wine. But Mr. Weber's superior samples of the genuine article warms up our faith again.

GRAPE HOUSES—*W. T. H., Lexington, Ky.*—We will give an answer in detail to your inquiries next month. They got in our wrong drawer, and we did not observe them till the last moment.

PLANTS—*A. B. K., Roxbury, Mass.*—*Tradescantia zebrina*.

New and Rare Fruits.

APPLES FROM BUCKS COUNTY, PA.—Last December we received from Mr. Wilson Dennis, of Applebackville, a set of apples little known in other sections of the country, but which Mr. Dennis advises us are very popular in that district. The following notes were made of them at the time:

Winter Maiden's Blush.—Fruit, medium, oblong-conic, angular; skin, yellow, covered with large distinct carmine dots; stem, short (half an inch); cavity, narrow, deep, irregular, and colored with carmine; calyx, closed; basin, shallow; flesh, white, crisp, tender, juicy, sub-acid, "very good;" seed, large, brown, flat; core, large. This variety was the best of the lot, but "not of the apple family."

Water.—Fruit, medium, conical, irregular; skin, smooth, greenish-yellow, covered with deep blush; stem, short (half an inch), very slender, inserted in a deep, regular russetted cavity; calyx, nearly closed in a shallow basin; core, small; seed, small, plump and dark; flesh, white, tender, crisp, sub-acid, "very good." This we have described before.

Stuckyard.—Very like Rambo, but not as good. Fruit, medium, oblate; skin, greenish-yellow, covered and marbled with yellow and red, and speckled with small spots and patches of russet; stalk, three-fourths of an inch in a deep, regular cavity; calyx, partly closed in a wide, deep, irregular basin; flesh, white, crisp, tender and juicy; seed and core, small; "very good."

Wine Apple.—Not our Hays's, sometimes called Wine. Fruit, large, oblate-conic; skin, yellowish-green, marked with streaks of pale red and blotches of russet; stem, long (one inch) in a deep, wide, russetted cavity; calyx, closed in a wide, shallow basin; core, large; seed, small and black.

New or Rare Plants.

NEW JAPAN TREES.—*Mr. Veitch, of London*, as our readers know, started some time ago for Japan, where he is now collecting for the English gardens. The *London Gardener's Chronicle* describes the following novelties from specimens Mr. Veitch has sent home:

SCIADOPITYS VERTICILLATA. *Zuccarini.* Kanagawa. Tree, 120 to 140 feet. Habit, pyramidal, distinct and fine. *J. G. V.*

This is, perhaps, the most remarkable coniferous plant yet described. It is erroneously described by Siebold as a mere bush, twelve to fifteen feet high. It has stout whorled, yellowish-green leaves, resembling that of an ordinary cedar, related to Wellingtonia as this is. Its name is derived from two Greek words signifying a parasol and a fir tree; its spreading whorled leaves looking like the ribs of a tiny parasol. Judging from Mr. Veitch's specimens, it must be a plant of extraordinary beauty.

It assumes a pyramidal habit, and retains the same form when a tree of one hundred to one hundred and thirty feet, clothed to the bottom with branches. This tree is certain to be appreciated at home, and will, doubtless, prove hardy in Great Britain.

ABIES MICROSPERMA. *Lindley.*—Leaves, ten lines long, three-quarters of an inch wide; cones, two and a quarter inches long, pale cinnamon color, two and a half inches round; seeds, pale cinnamon, one line; wing, two inches long, nearly ovate, and occasionally notched. *Hakodadi.* Tree, 40 to 50 feet high; under side of the foliage very glaucous. Its foliage resembles spruce in point of color, but the leaves are as long as *Picea amabilis*, and perfectly silvered underneath.

A beautiful thing, quite unlike any other spruce, with slender, delicately-toothed cones, as broad at one end as the other, and the smallest seeds of the genus.

ABIES TSUGA. *Zuccarini.* Mount Fusi Yama. —Tree, 100 feet. Trees are much used by the Japanese. 6000 feet. *J. G. V.*

A kind of Hemlock spruce, much like that plant, and growing twenty-five feet high. Its wood is described as excellent, yellowish-brown, and employed for the manufacture of various small ware articles.

This species was also found at an elevation of 6000 feet, growing just below the larch, and in company with the oak, lime, beech, &c.

ABIES VEITCHII. *Lindley.*—Leaves, varying in length six to twelve lines, three-quarters of a line broad; cones, two and a quarter to two and three-quarters inches in circumference; seeds, testaceous, two lines long; wing, blackish, two lines long, with a very narrow curved crest at the base of the wing.

Mount Fusi Yama. Tree, 120 to 140 feet high, between *A. nobilis* and *A. Nordmaniana*. J. G. V.

This most remarkable species looks like a small-coned Silver Fir, and is wholly different from any thing previously described. It is named after Mr. J. G. Veitch, whose great merit, as a very energetic explorer of the vegetation of Japan, it gracefully records. As to the pine called by the same name by Mr. Roedel, whether or not it is the same as *P. Bonapartei*, as the writer of the *Pinetum* surmises, is unimportant, since names so published can have no place in systematical botany.

ABIES ALCOQUILANA. *J. G. Veitch in litt.*—Leaves, six inches long, half an inch wide; cones, rather more than two inches long, four inches in circumference; seeds, cinnamon-colored, two lines; ring, four lines long.

Mount Fusi Yama. Tree 100 to 120 feet. Wood used for light house-work. 6000 to 7000 feet.

A noble Spruce Fir, in some respects resembling the *Abies polita* of *Zuccarini*, from which it differs in having much smaller cones, with scales of a different form, very small, leaves glaucous on the under side, blunt or emarginate, not mucronate, and flat, not four-sided.

ABIES LEPTOLEPIS? *Zuccarini.* Mount Fusi Yama. Tree, 40 feet. The tree which grows at the highest elevation on the mountain, 8500 feet. J. G. V.

THUJOPSIS DOLABRATA. *Zuccarini.*—Hakodadi. Tree, 40 to 50 feet. Habit, drooping; prefers shady places. J. G. V.

A very few plants of this glorious evergreen tree have already been raised in Europe from cuttings taken from one or two imported specimens; and now we shall have seedlings, Mr. Veitch having been so fortunate as to meet with the tree just when the cones were ripened. The tree looks like a huge arborvitæ, with magnified leaves of a black-green color, glaucous beneath. The wood is excellent, the aspect of the plant superb.

All who have seen the beautiful *Thujiopsis borealis* can appreciate the above description, though the *T. dolabrata* is still more beautiful. That it will prove hardy there can be little doubt; and if so, what a treasure to our gardens. Mr. Veitch says it appears to prefer shady situations, the foliage being more

luxuriant than when exposed to the sun. It grows where snow covers the ground for five months together, and where the thermometer is often below zero. At Messima, on the route to Mount Fusi Yama, the woods were composed of this *Thujiopsis*, which were among the finest trees.

TORREYA NUCIFERA. *Zuccarini.*—Kanagawa. Tree, 20 feet; foliage, sharp. J. G. V.

The specimens sent home are identical with those in Lindley's herbarium from *Zuccarini* himself.

CEPHALOTAXUS DRAPACEA. *Siebold.*—Kanagawa. Tree, 20 to 30 feet. J. G. V.

Mr. Veitch's specimens are very much more glaucous on the under side of the leaves than the plants now in cultivation.

JUNIPERUS RIGIDA. *Siebold.*—Atame. Tree, 12 to 15 feet. J. G. V.

The specimens sent home have the leaves very narrow, exactly like the figure in the *Flora japonica*.

Domestic Intelligence.

THE CALIFORNIAN MAMMOTH TREES AGAIN.—In a recent number, we gave sketches of two of the most remarkable of the Sequoias or Wellingtonia

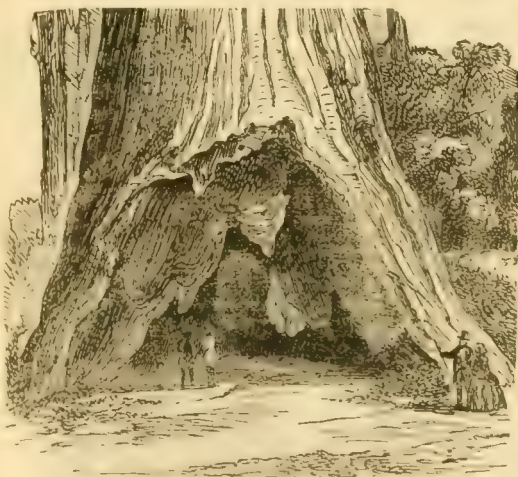


gigantea. In a recent file of California papers we find the following notice:

"The 'Miner's Cabin,' the name of one of the big trees of Calaveras, was blown down in the gale of Friday, the 16th inst. It was one of the largest of the group, being some thirty feet in diameter, or about ninety feet in circumference. Its age is supposed to be three thousand years."

Having a sketch of this particular tree by us, we cannot resist the temptation of giving it to our readers, as with our views of the influence of agricultural and human improvement, we do not expect our posterity will see such large trees of these plants as the present favored race does; and they may turn to back files of the *Gardener's Monthly* with great interest for preserving for them these "shadows of great names." The measurement taken with our cut was 80 feet in circumference.

Though a fine specimen, the "Miner's Cabin" was not as large or striking as the "Pioneer's" cabin within a short distance of it. This has been broken off some years ago, at about *one hundred and fifty* feet from the ground, and is supposed to have been at over 300 feet high!



It is gratifying to state that it appears likely to be entirely hardy here. We have seen specimens out and slightly injured during 1859 and '60, quite uninjured in 1860 and '61, though plants set out last year suffered terribly. They should be protected with branches the first season of setting out.

THE JUNE-BERRY AS A STOCK FOR DWARFING PEARS.—Mr. Huidekoper says, in the *Horticulturist*, that pears grafted on this stock [the *Amelanchier Botryapium*, also called in our markets the Indian Cherry] are free from "blight."

Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.

Official Report.

APRIL 16.

The regular monthly meeting and display of Fruits, Flowers and Vegetables was held on the evening of the 16th of April at Concert Hall, Mr. Caleb Cope presiding.

The following premiums were awarded:

FOR FRUITS.

To John Chambers, Mt. Holly, N. J., for Easter Beurre Pears, in excellent condition and of fine flavor, a Special Premium of \$2.
To Wm. Joyce, gardener to M. W. Baldwin, for a dish of fine Bananas, a Special Premium of \$1.

FOR PLANTS AND FLOWERS.

To Robert Buist, for the best collection of ten plants, \$3.
" " for the second best collection of six plants, \$1.
" " a Special Premium for a magnificent collection of new plants, exhibited for the first time, \$5.
To Wm. Joyce, gardener to M. W. Baldwin, for the best collection of six plants, \$2.
" " for the best Specimen Plant, \$2.
" " for the best Dwarf Azalea, \$1.
To Adam Graham, gardener to Gen. Patterson, for second best Specimen Plant, \$1.
To Henry A. Dreer, for best 12 varieties of Roses, \$2.
" " for best ten Pansies, \$1.
To Thos. Meehan, for New Plants shown for the first time, a Special Premium of \$2.
To Geo. Penn, gardener to Jos. H. Hildeburn, for six plants, a Special Premium of \$1.

FOR VEGETABLES.

To Thomas Meehan, for best brace of Cucumbers, \$1.
" " for best twelve stalks of Rhubarb, \$1.
" " for best six bunches of Radishes, \$1.
To John Cook, gardener to Rev. J. M. Richards, for a fine dish of Fudge Tomatoes, a Special Premium of \$1.
Among the new rare and valuable plants exhibited were the following, from the collection of Mr. Buist:—*Lupinus albus cyprinus* a splendid specimen, *Centaurea gymnocarpa*, *Campylobotrys regalis*, *Caladium Houletii*, *Newmannii* and *Bellum*, *Salix tricolor*, *Rhus succedaneum* or Japan Wax Plant, *Gillet Malmanson* or Tree Carnation, *Dickema antarctica*, *Cereus Kingii* (a new seedling), and *Cesneria Maskebi*.

Mr. Meehan exhibited, for the first time, *Dianthus Heddewigii*, *Solanum laciniatum*, *Sifera rubella alba*, and the new Azalea *Barnard Andrie*.

A beautiful show of Camellias, by Mr. Mackenzie, attracted much attention, as well as a choice specimen of the new and rare *Gazania splendens*, whose petals open only in the daytime and with the sun. This is said to be a fine bedding plant.

The collection of Azaleas exhibited by Wm. Joyce attracted the attention of all for their beautiful training and rich and profuse bloom.

Mr. Dreer's group of Roses comprised some of the choicest and latest acquisitions.

Mr. Dreer had also a fine show of Pansies of large size and varied colors.

MAY 21.

The Pennsylvania Horticultural Society held its regular monthly meeting Tuesday evening, May 21, at Concert Hall. The attendance both of members and visitors was quite numerous; a larger number of ladies were present than usual, and the fine display of plants attracted marked attention.

The large and noble collection of fifty plants from the conservatory of D. Rodney King, Esq., including the best show ever made before the Society of ornamental foliage plants, was a distinguished feature of the evening; they were all well grown and in high health. Among the novelties were the *Cyanophyllum magnificum* and *Hibiscus variegatus*.

P. Mackenzie & Son contributed a very extensive and beautiful assortment of Azaleas, Fuchsias, and other choice plants in full bloom, including the following new plants: *Linum catharticum*, *Maranta Portana*, *Gazania splendens*, *Veronica Electra* and *Saladin*, and several other interesting novelties.

Mr. Robert Buist, in addition to a fine display of French spotted and fancy *Polygonums*, and a magnificent specimen of the new *Pteris argyrea*, with fronds nearly five feet in length, exhib-

ited some new and very rare plants for the first time, among which were: *Acer nasuta* fol. Variegata, *Dielytra eximia*, *Bellia aeneobolus* and *Dracena umbraclifera*.

Mr. Thomas Meehan contributed a fine collection of Double Zinnias; also *Spirea eruta* and *Caprifolium Magnavillea*, a very early sweet Honeysuckle—all new plants; also a choice and beautiful show of cut specimen shrubs.

The following contributions also graced the Society's tables:

From William Joyce, gardener to M. W. Baldwin, Esq., a collection of foliage plants, 1 cauliflower and Asparagus.

From A. Felton, gardener to Henry Dohring, Esq., fine Rhubarb, Cabbage, Cauliflowers, Potatoes, Cucumbers and Beets.

From B. G. Swift, Victoria and Hobson's seedling Rhubarb.

From John Cook, gardener to Rev. J. M. Richards, Calceolarias, Grapes in Pots, Strawberries, Asparagus and specimen plants.

From Thomas Meghran, Cucumbers.

From A. W. Harrison, Sir Charles Napier Strawberry.

Premiums were awarded as follows:

To Robert Bunt, for best pair of specimen plants, \$2; to do, for collection of new plants, \$2; to do, for *Pelargonium*, \$1.

To P. MacKenzie & Son, for plants in bloom, \$2; to do, for new plants, a special premium of \$1; to do, for specimen Azalea, \$1.

To Thomas Meehan, for cut specimens of hardy shrubs, \$1; to do, for new plants, a special premium of \$1.

To John Cook, for second best pair of specimen plants, \$1; to do, for best six Calceolarias, \$1; to do, for best three bunches of Grapes, \$1; to do, for Forced Strawberries, \$1; to do, for Grapes in Pots, \$1.

To William Joyce, for best six specimen plants, \$2; to do, for best specimen plants, \$2; to do, for best Asparagus, \$1.

To A. Felton, for best Rhubarb, \$1; for best Beets \$1; for best Cabbage, \$1; for best Potatoes, \$1.

To Thomas Meghran, for best Cucumbers, a special premium of \$1.

The Committee on obtaining a new room made a report, action upon which was deferred till next meeting.

A very interesting and instructive report, from a Special Committee, Messrs. Mitchell, James and Saunders, on the rise, progress and present condition of the Society, made in answer to a letter of inquiry from the Patent Office, was read and adopted. It proves this to be the oldest Horticultural Society in America.

Prof. J. Ennis and Adam Graham were elected members.

[We subjoin a list of the 50 varieties of foliage plants in Mr. King's display, for the information of those who wish to add some of these desirable plants to their collections. They are all very beautiful:]

<i>Sonerita margaritacea</i> .	<i>Gratiophyllum pictum</i> .
" " <i>superba</i> .	<i>Desmodium gyrans</i> .
<i>Echites nutans</i> .	<i>Pteris argyrea</i> .
<i>Aconis variegata</i> .	<i>Aphelandra squarrosa citrina</i> .
<i>Dracena nobilis</i> .	<i>Bertolonia marmorea</i> .
" <i>feria</i> .	" <i>maculata</i> .
" <i>versicolor</i> .	<i>Gesnera splendissima</i> .
<i>Begonia Victoria</i> .	<i>Maranta fasciata</i> .
" <i>Rollisonia</i> .	" <i>Porteana</i> .
<i>Caladium hemastostygma</i> .	" <i>bicolor</i> .
" <i>bicolor</i> .	" <i>pulchella</i> .
" <i>picturatum</i> .	" <i>vittata</i> .
" <i>pictum</i> .	" <i>micans</i> .
" <i>Chantini</i> .	" <i>regalis</i> .
" <i>marmoratum</i> .	" <i>alba lineata</i> .
<i>Heliconia discolor</i> .	<i>Tradescantia discolor lineata</i> .
<i>Solanum atropurpureum</i> .	<i>Farfugium grande</i> .
" <i>jasminoides variegatum</i> .	<i>Boehmeria argentea</i> .
<i>Croton pictum</i> .	<i>Diedenbachia seguinia picta</i> .
" <i>latifolia</i> .	<i>Pothos argyrea</i> .
<i>Aspidistra elatior foliis variegatis</i> .	<i>Eranthemum leucocervum</i> .
<i>Hoya variegata</i> .	<i>Yucca aloefolia variegata</i> .
<i>Bilbergia aculis zebrina</i> .	<i>Sansevieria Guyanensis</i> .
<i>Cyrtopodium venustum</i> .	<i>Coleus Blumei</i> .
<i>Acorus calamus variegatus</i> .	<i>Heliotropium variegatum</i> .
<i>Cyanophyllum magnificum</i> .	

BROOKLYN HORTICULTURAL SOCIETY.

List of premiums as awarded by the judges at the Spring Exhibition held in the Academy of Music, April 17th, 1861:

Collection of Plants—1st Prize, Louis Menand, \$15.
" " 2d Prize, George Hamlyn, \$10.

Collection of Ferns—1st Prize, Louis Menand, \$6.
" " 2d Prize, Philip Zeh, \$4.

Collection of Cacti—1st Prize, Louis Menand, \$5.
Collection of Verbenas—1st Prize, Poynter & Foddy, \$3.

For 8 Plants, Store—1st Prize, George Hamlyn, \$10.

" " 2d Prize, Louis Menand, \$6.

For 4 Plants, Store—1st Prize, Robert Murray, \$6.

" " 2d Prize, Louis Menand, \$1.

For 2 Plants, Store—1st Prize, Louis Menand, \$4.

" " 2d Prize, Robert Murray, \$3.

For Single Specimen do—1st Prize, Geo. Hamlyn, \$3.

" " 2d Prize, Louis Menand, \$2.

For 6 Variegated Plants—1st Prize, Louis Menand, \$5.

" " 1st Prize, George Hamlyn, \$3.

Single Variegated Plants—1st Prize, Louis Menand, \$1.

" " 2d Prize, George Hamlyn, \$2.

For 6 Azaleas—1st Prize, Robert Murray, \$5.

" " 2d Prize, Thomas Templeton, \$5.

For 3 Azaleas—1st Prize, George Hamlyn, \$3.

" " 2d Prize, Louis Menand, \$1.

Single Azaleas—1st Prize, Hamlyn, \$3.

" " 2d Prize, J. W. De Grauw, \$2.

For 4 Ericas—1st Prize, Louis Menand, \$6.

" " 2d Prize, George Hamlyn, \$1.

For 2 Ericas—1st Prize, George Hamlyn, \$2.

" " 2d Prize, Louis Menand, \$1.

Single Erica—1st Prize, Louis Menand, \$3.

" " 2d Prize, George Hamlyn, \$2.

For 3 Scarlet Pelargoniums—1st Prize, Thomas Templeton, \$3.

For 8 Roses—1st Prize, Poynter & Foddy, \$5.

" " 2d Prize, James Wier, \$4.

For 6 Roses—1st Prize, Poynter & Foddy, \$4.

For Tropaeolum—2d Prize, Robert Murray, \$2.

" " 2d Prize, John Egan, New Island, \$2.

For 3 Fuchsias—1st Prize, Philip Zeh, \$3.

" " 2d Prize, Henry Tanner, \$2.

Best Double Chinese Primrose—Louis Menand, \$1.

For best Stockjelly, white—John Egan, \$1.

" *colored*—John Woods, \$1.

For 4 Monthly Carnations—1st Prize, Dailledowze & Zeller, \$3.

Collection of Cut Flowers—1st Prize, John Humphreys, \$4.

For 6 Camellias—1st Prize, John Humphreys, \$3.

For 12 Roses—1st Prize, Poynter & Foddy, \$2.

" " 2d Prize, M. Donadi, \$1.

For 12 Pansies—1st Prize, M. Donadi, \$1.

Parlor Bouquet—James Wier, jr., \$4.

Hand Bouquet—1st Prize, John Humphreys, \$3.

" " 2d Prize, H. Hudson, \$2.

Basket of Flowers—1st Prize, James Wier, \$4.

" " 2d Prize, John Humphreys, \$3.

" " 3d Prize, Philip Zeh, \$2.

For 6 Lettuce—1st Prize, Jonathan Saul, \$1.

For 6 Rhubarb—1st Prize, Thomas Prosser, jr., \$1.

For 25 Radishes—1st Prize, Thomas Prosser, jr., \$1.

Best Labeling—Louis Menand, \$2.

The following are the names of some of the principal plants exhibited:

George Hamlyn, gardener to W. C. Langley, Esq., Bay Ridge, of all the new variegated and ornamental foliage plants, such as *Pavetta Borbonica*, *Maranta*, 5 of the newest *Caladiums*, 8 variegated *Begonias*, *Sonerita margaritacea*, *Eriosema marmora*, *Dracena nobilis* and *terminalis*, *Tradescantia*, *Rhopala*, *Crowton Dieffenbachia Variegata*, *New Pelargonium*, large plant of *Chorozema*, *Muscoda frondosa*, very singular and rare, choice collection of *Erica* or *Heaths*, also *Azaleas*.

Robert Murray, gardener to James Patrick, Esq., State Street, 6 choice *Azaleas*, 1 *Tropaeolum tricolor*, *Basket Cut Flowers*, *Chorozema Henchmani*, *Eriosema intermedia*, *Boronia tetrandra*, *Lechenaltea formosa*.

Thomas Templeton, gardener to Estate of Alfred Large, Brooklyn, 6 choice *Azaleas*, 6 *Pelargoniums*, 4 *Cineraria*, 1 *Tree Mignonette*, in flower, 2 large *Geraniums*, 1 standard *Geranium*.

Philip Zeh, gardener to A. A. Low, Esq., Brooklyn Heights, splendid collection of *Ferns* and *Lycopodiums*, 6 standard *Fuchsias*, 4 *Gloxinias*, *Basket Flowers*.

John Egan, gardener to J. Roch, Esq., Staten Island, *Stocks* and *Tropaeolum tricolor*.

George Stein, gardener to John T. Martin, Esq., Brooklyn, choice plant of *Azaleas*, etc.

Henry Tanner, gardener to Hon. A. S. Stranahan, Brooklyn, collection of *Cineraria* and *Fuchsias*, *String Beans* and *Lettuce*, very fine.

President J. De W. Grauw, some choice *Azaleas* and Miscellaneous Plants.

B. C. Townsend, Esq., Bay Ridge, 6 new variegated *Caladiums*, rare.

John Woods, Esq., Washington Heights, splendid plant of *Stocks*.

Louis Menand, Albany, N. Y., largest and best collection of rare and variegated leaved plants, consisting of the *Fan Palm*, *Maranta*, *Dracenas*, *Begonias*, *Crotons*, *New Golden Arborvitae*, variegated *Yucca* and *Daisy Ferns* of the *Golden*, *Silver* and *Tree* varieties.

Also, the new and rare *Tricolor Fern*, *Sago Palm*, collection of each, *Erica*, *Pimelia*, *Aphelaxis*.

John Humphreys, corner of DeKalb and Washington Avenues, Wellingtonia gigantea, or Mammoth Pine of California, 2 Golden Arborvitae, this and the Pine are hardy; Aucuba Japonica, variegated Holly, very beautiful; variegated Pittosporum, Dracena spectabilis, 2 new seedling Camellias, very fine; 6 cut Camellias, 6 choice Azaleas, variegated Fuchsia, Begonias, 8 new Fuchsias, 1 American Pitcher Plant in flower, 1 new Pelargonium, 1 India Rubber Tree, 2 Wardian Cases, or Parlor Conservatories, 1 basket of Cut Flowers, 2 Hand Bouquets, stand of Cut Flowers, stand of Pansies.

Poynter & Foddy, Smith Street, 20 choice Verbenas, very fine; 14 choice Roses, splendid.

Dadledowze, & Zeller, Myrtle Avenue, corner of Yates, —4 new Monthly Carnations, extra fine; 20 choice d. do. beautiful, —(all new imported seedlings); 12 Anemulas, double White Wisteria, very scarce and rare; 4 Clematis, Cut Roses and Pansies.

James Wier, Bay Ridge—8 choice Roses, Basket Cut Flowers, 1 Table Bouquet.

Harry Hudson, Congress Street—2 Hand Bouquets.

John Friend, Fulton Street—Callas, Roses and Verbenas.

D. Saul, Brooklyn—Collection of Rhubarb, Lettuce and Radishes.

Thomas Prosser, Jr., Bedford—Collection of Rhubarb and Water Cresses.

O. Eberhardt, 213 Grand Street, New York—New Style of Flower Pots, Hanging Baskets, Fern and Wardian Cases, Bouquet Stands, all made of zinc by a patent process, and beautifully ornamented like china.

W. V. Bloom, 364 Atlantic Street, Brooklyn—Forcing Glasses, with ventilators.

Persons not familiar with plants and flowers, have no idea of their variety and beauty, except by visiting such a collection of the choicest and rarest kinds as are here brought together, and there is no Society more worthy of encouragement than this, with its soothing and refining influences on the public taste.

CINCINNATI HORTICULTURAL SOCIETY.

APRIL 13.

At this meeting the subject of discussion was Roses.

Mr. Wm. Heaver read the following paper:

THE ROSE AND ITS CULTIVATION.

Of all the flowers in the garden, none excel, in universal admiration, the rose. Ages ago regal honors were bestowed on her, and the title of Queen of Flowers universally accorded to this lovely ornament of our gardens, and this, long before such truly royal flowers as La Reine, Geant des Batailles, or the tenderly expressive Souvenir de la Malmaison, had challenged the admiration of all lovers of Nature's most beautiful works.

If in the earlier ages of floral gardening, the beauties of our favorite should have called forth such rapturous expressions of delight and admiration, what wonder that in our day, when, by the art and skill of the florist, those beauties have not only been so greatly enhanced, but the season for enjoying those beauties so much extended, that, instead of being restricted to a few short weeks of the early summer, we have now the pleasure of their beautiful presence more than half the year. What wonder, say you, then, that this universal favorite still retains her proud title of Queen of Flowers?

Instead of being confined in our admiration, or divided in our preferences, by the White Rose of York, or the Red Rose of Lancaster, we may gratify our tastes in the selection of every shade of color, from the purest white to the darkest purple, through the intermediate tints of Blue, Pink, Pale Rose, Deep Rose, Rosy Crimson, Purplish Crimson, to Deep Purple; and from Golden Yellow, through all the intermediate shades of Apricot, Fawn, Buff, Creamy White, to spotless Purity itself.

To enable my fellow-members to enjoy those beauties in perfection is the object of the present communication.

PREPARING THE SOIL.

The character of the soil is one of the most important particulars for the perfect growth of plant and full development of flower. Decomposed turfy loam, mixed with one fourth part old rotted stable manure, with a small portion of sharp sand, is the best compost for Roses.

When designed to be planted in beds, (which is decidedly the best way of having them in perfection,) the sub-soil, if clay, should be trenched to the depth of twenty or twenty-four inches, of which the lower six inches should be thrown out, and the compost of turfy loam and manure be incorporated into the surface soil of the bed. Should the lower strata be of a very tenacious character, and retentive of water, some drainage of brickbats, broken rock, or brushwood to the depth of four or five inches, should be placed

at the bottom, and a drain to lead off the water, and thus prevent the ill effects resulting from stagnant water or excessive moisture at the roots.

The fall is the best time for performing this work, and if the roses are to be transplanted from the ground, it is the best season for planting, but if the work of preparing the bud has been left till spring, and the intention is to plant out such as have been grown in pots, it should be done as early in the spring as possible, after the dangers from killing frosts have passed. In our climate it is a matter of much importance for the future welfare and the vigorous growth of the plants, that planting should be done before the great heat and drought of summer sets in.

In planting, care should be taken not to set the plants too deep in the ground; much injury to the plants and disappointment frequently results from this cause.

In planting in beds, they should be set from two to four feet apart, varying according to the habit and character of the variety, the stronger and more rampant growers requiring the most room.

On some future occasion I may present you information with regard to summer management, pruning, winter protection for the more tender kinds, also the best modes of massing and grouping, with descriptive lists of the best varieties, their habits, &c.

Respectfully submitted,

WM. HEAVER.

Ordered to be entered upon the minutes.

REPORT OF FRUIT COMMITTEE.

From Dr. H. J. Bower, Moore's Hill, Ind.—Apples for name—Committee call this apple the Bower's Seedling, an excellent long-keeping apple, equal and much resembling Newtown Pippin.

Flamen Ball's Seedling; a small, sweet apple, not worthy of cultivation.

By Geo. L. Frankenstein, from C. Cadwallader, near Springfield, Ohio—apple for name: pronounced the Michael Henry Pippin.

By A. A. Mullett, from Jos. Cooper—apples for name; probably seedlings—not worthy of cultivation.

J. E. MORTIMER, } Committee.
S. MOSHER. }

Report of Flower Committee laid over.

PHILADELPHIA PROGRESSIVE GARDENER'S SOCIETY.

A correspondent sends us a note, from which we extract the following:

"You have given offence to several members of the *Progressive Gardener's Society*, Philadelphia, by publishing in this month's number, that William Saunders is President, and R. R. Scott, Secretary. Not so. John Pollock is President, and W. Saunders is Secretary, James Eadie is Vice President. You should acknowledge the error, and make the correction in your June number."

To which we have to reply that though our experience with this journal has taught us particularly the art of offending, it is much easier of accomplishment than we ever supposed, judging by this specimen. For a whole year past we have had it standing that Mr. Saunders was President, and Mr. Scott was Secretary. If it was not the fact, or if the officers have been changed since, notification thereof has never reached this office. The members of this society know that we have offered them the use of our columns to advance their interests whenever they think fit; see page 128 of last volume. If they do not see proper to avail themselves of our offer as other societies do, it can be no fault of ours.

KEOKUK HORTICULTURAL SOCIETY.

The monthly meeting of this Society, held on the 7th ult., was well attended, and an interesting discussion sprang up on the report of the Committee on Apple Trees for Orchard Culture.

The Society has recently been obtaining the opinions of nurserymen and fruit-growers as to the twelve most profitable varieties of apples for orchard cultivation in this section of Iowa and the contiguous portions of Illinois and Missouri. Experience has proved that a variety that bears well in one locality does not succeed as well in another locality even within the distance of a mile. Some varieties do not exhibit good bearing traits until the trees have age. The Society adopted the following as the list of twelve varieties that have been proved to be the most hardy sorts, the best bearers, and as producing the most marketable fruit:

Winesap, Yellow Bellflower, Rawles' Janet, Grimes' Golden Pippin, Rome Beauty, Maiden's Blush, Red Pippin, Red June, Small Romanite, Rambo, Willow Twig, and Early Harvest.

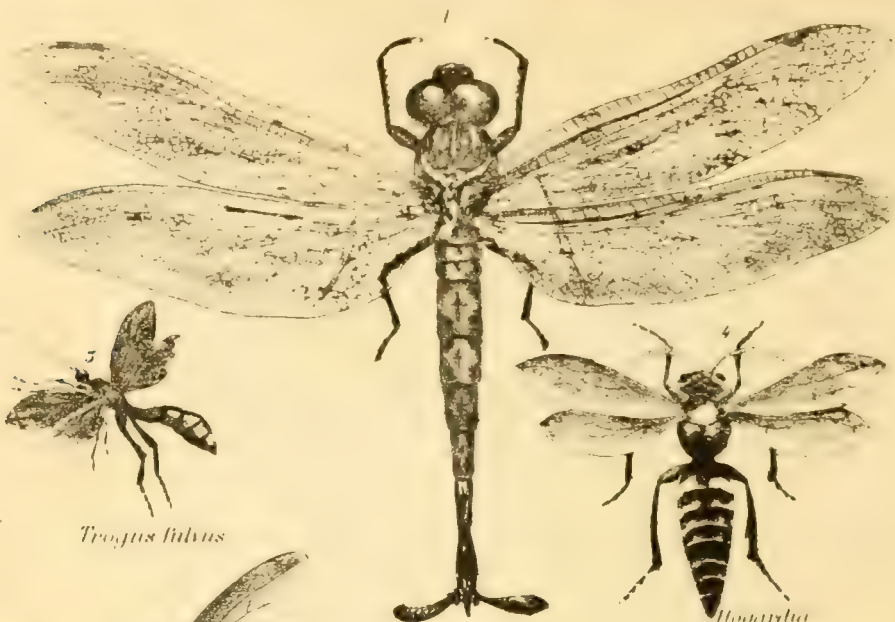
The following varieties are also known to succeed well. Dominic (or Winter Rambo), Smith Cider, Northern Spy, Vandevere, Spitzenburg, and Summer Queen.

Subject for discussion at the next meeting, "Preparation of Soil for Spring Planting."

Adjourned to meet Thursday, April 4th, at 2½ P. M.

J. R. TEWKSBURY, Secretary.





Trogus fulvus



Hogarthia spectosa

Ecdia grandis



Pimpla humilis



Sphex pennsylvanicus



Sphex ichneumonoides



Mantis carolinae

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

JULY, 1861.

VOL. III.—NO 7.

Hints for July.



FLOWER-GARDEN AND PLEASURE-GROUND.

It is a household proverb, that a "woman's work is never done," and the life of a gardener shares the truth of the same remark. And there is, after all, a closer analogy between the life of women and a gardener's profession than would strike one at first thought. Neither receive from the "rest of mankind" the full credit for refining influences which is so justly their due; and both have to fall back on their work as labors of love, and in its own pursuit derive pleasure and profit as a part of their just reward.

And so if when we took up our pen to trace out a few hints for our *Monthly* reader's benefit, under this burning July sun, and a passing thought tempted us to wish we had not the labor to perform,—that it was not, perhaps, appreciated as the effort should be,—that it brought to us no pecuniary reward,—and that we might as well persuade ourselves and our readers that there was nothing worth doing in a garden in July, and that the best advice would be to hitch up our hammocks in the branches of the nearest linden, and languidly live in lazy contemplation of what we have done for Flora and Pomona the past eleven months, and ponder on the victory we have enabled them to achieve over nature, and the rewards they have in store for us by the success,—a moment's wandering of our mind's eye through our garden grounds dispelled the illusion, and convinced us that there was not only work to be done and plenty of it, but that it was only in its pursuit that our real pleasure lay; and that, though the idea of rest to the weary was a pleasant one enough in its way, philosophy taught us that it was only in order that we might gain renewed strength

for the chase, and that in this activity alone all our real gratification lived.

The lawns, walks, and flower-beds will still require the constant care suggested in our last, and attention can be bestowed at this season on improving the form of trees and shrubs. In some parts of a large garden, trees are in better keeping with surrounding scenery when suffered to grow wild and pretty much to themselves; but near buildings, or in any part of a garden which is to denote high keeping, symmetry will ever be considered a chief element in beauty, and the aim be, what after all is the true object of gardening, an improvement, or a triumph, in fact, over the prettiest natural scenes. Trees and shrubs can be made as regular as we wish, by training a shoot here and tying one there—now using a stake, and at another time employing a string. After a few weeks they will grow as you have placed them, and exemplify the adage, that "as the twig is bent the tree's inclined." The most malformed or ugliest specimen of an evergreen may be made an exquisite "thing of beauty" by such trifling care.

Ornamental flowering shrubs, too, are in the same category. A few very strong, vigorous shoots will sometimes push, to the extreme jealousy of weaker members of the confederation. You will have to play the emperor—maintain the balance of power, and by a few vigorous attacks of the pruning-knife at the base of such arrogant pretension, end the causes of trouble by taking them completely away from the scene of strife.

And the hedges—do not forget them. The tops have been already trimmed, or ought to be, and the shoots at the base beginning to push with great vigor. If it is not done,—as from the many new subscribers the *Monthly* is receiving daily, and who may not have as yet received the back numbers of our paper, may possibly be the case,—no time should be lost in the operation. Remember to train your hedge conically; prune severely while growing towards the apex, and very little at the base; and in winter cut very vigorously at the base, and but very little at the apex. That is the rule of success.

The ladies cannot exercise themselves or better aid their gardeners in keeping up a display of

flowers, than in considering it their task to go over the flower-garden and shrubbery occasionally with basket and scissors, taking off dead and fading flowers. It strengthens the plants, prolongs the flowering season, and favors order and neatness.

Plants set against walls and piazzas frequently suffer from want of water at this season, when even ground near them is quite wet. Draw away the soil around each plant so as to form a basin; fill in with a bucket full of water, allowing it time to soak gradually away, and when the surface has dried a little draw in loosely the soil over it, and it will do without water for some weeks. This applies to all plants wanting water through the season. If water is merely poured on the surface, it is made more compact by the weight of water, and the harder the soil becomes, the easier it dries; and the result is, the more water you give the more is wanted.

Whenever the bark of any plants separates easily from the wood, and plants have ripened their wood enough to form prominent eyes in the axils of the new growth of leaves—budding may commence, and may continue with different things till September. It is an easy way to change trees we already possess into others more desirable; choosing closely allied species for the operation. Thus a common ash might be transformed in one season to a fine specimen of a Weeping Ash, or the new Oregon Maple be budded into large trees of sycamore. Sometimes advantage may be taken of working mere bushes into the heads of large-growing trees,—transforming shrubs into nobles of the forest. Many trailing and meagre-growing willows, cherries, maples, &c., are rendered very vigorous growers by being budded on strong growing kinds. Budding also affords room for tasteful combinations. Trees with different shades of foliage, hues of leaves, habits of growth, or color of flowers, may be worked on one common stock,—fancies of which kinds add much to the interest of a place when judiciously executed.

Many things do not take well by budding; in which case inarching may be employed. This is done by bringing together two half-ripened shoots of different varieties, just shaving the bark at an opposite point in each, making the two faces of the shaved parts meet, and then tying the two branches together at the junction, lapping the tying material (bast bark is the best,) so that the whole cut part is encircled by it. Most parties who intend to inarch, keep some of the kinds they wish to use as scions in pots, so as to bring them at the proper season in contact with the stock. Shelvings and other contrivances are resorted to to support such pots, in and amongst the branches, when the operation is to be performed at a height from the ground. A plan,

however, which obviates all this trouble, and is generally successful, is to hang bottles of water near the points to be inarched, and the scion is placed in this, from which it derives enough water to carry on its vital functions, until the union with the stock takes place.

The time is coming when transplanted trees of the past fall and spring will suffer more than during any other part of the season. If they show a vigorous growth of young wood, no danger need be apprehended, as it indicates that the roots are active, and can supply all the moisture the foliage calls for; but if no growth has been made, no roots have been formed, and the leaves are living for the most part on the sap in the wood and bark, and hot, drying weather will tell with injurious effect on such trees. This is generally first shown by the peeling off of the bark on the south-western side of the tree,—the most drying aspect; and where such exhaustion appears probable, much relief may be afforded by cutting back some of the branches, syringing with water occasionally, shading the trees where practicable, or wrapping the trunk in hay-bands, or shading the south-west with boughs or boards.

VEGETABLE GARDEN.

Our hints for the last month will, in a great measure, bear a re-perusal at the commencement of this.

Sow endive, and towards the end of the month transplant in rows. They should be set out in rows eighteen inches apart, and one foot from each other. The soil can scarcely be too rich for them. Seed may yet be sown for a later crop.

If brocoli is a desirable vegetable, it may be had all through the winter by being sown now. In about four weeks plant out into rich garden soil. On the approach of frost, take up the plants, with a portion of soil adhering, and pack them closely in a warm and somewhat damp cellar. They will continue to grow, and produce nice heads.

Beans may be sown up to the end of the month. For winter use, the White Kidney is very popular, although other kinds are very extensively grown for the same purpose.

In some families, large, full-grown carrots are objectionable. Seeds of the Long Orange sown now on rich sandy soils, form neat and desirable roots before winter. The same may be said of beets.

Cucumbers for pickles are also sown about this time. They usually produce a greater number, and consequently smaller fruit, than when sown earlier. The Short Prickly is the kind to employ.

The main crop of winter cabbage is often planted the first or second week in July. In planting, if the weather be dry, it is a good plan to make the holes before planting and fill up with water; after soaking

away, the plants may be set in, and they seldom wither afterwards, though without rain for a month. Another and more expeditious plan is to have the plants ready with their roots in a pan of water. They are then set into the hole at the time it is made. The water adhering to the roots then gives to the set out plants the advantages of puddling.

Celery we have spoken of last month. The remarks are yet applicable.

GREENHOUSE.

AN important point just now is to prepare winter-flowering plants. Cinerarias, Chinese Primrose, and Calceolarias should be sown about the end of the month; and cuttings made of most kinds of plants that are desirable. It is a great mistake, often made, to store up and treasure year after year, old and even grown specimens, when younger ones would bloom more vigorously, and give better satisfaction. Propagation of plants will go on. It is one of the pleasures of the gardening art; and where old treasures are prized, the greenhouse soon becomes a crowded mass of ugliness, with credit to neither gardener nor owner.

Most of the plants are set out for the summer, as formerly recommended,—little care will be required beyond seeing that they are not over or under watered. Some will be yet growing, and may be full of roots. If growth will probably continue for a while longer, pots a size larger may be furnished such. Whenever a shoot appears to grow stronger than the rest, so as to endanger compactness or any desired shape, pinch it back, and any climbing vines should receive due regulation as they grow over the trellis, or they will speedily become naked below. A good stiff trellis is a desideratum hard to be obtained by the uninitiated. In another column is a simple way to make them, often used by good gardeners.

In training vines, so manage that there shall be a due proportion of branches hanging loosely about the trellis,—as it is this flowing gracefulness that adds half the charms to this tribe of plants which they so profusely possess.

Communications.

LANDSCAPE-GARDENING.

No. 6.

BY GEORGE E. WOODWARD, NEW YORK.

TASTE, good taste, has generally been considered the one all-important qualification or gift that will transform mechanical attainments into artistic skill,

and fit those of a low order of education and associations, to become practitioners of the elegant art of landscape embellishment. That a refined and educated taste is necessary to successfully pursue an art, which by universal consent ranks high among the cultivated arts, we do not deny; that it is the one thing needful to make an artist, is simply an absurdity.

It can readily be shown that landscape-gardening requires a knowledge of many of the leading arts and sciences,—that it is not only an art by itself, but a combination of other arts, and that good taste is no compensation for ignorance. Nature rarely bestows her gifts so freely, as to make any one master of the resources of a simple art,—much less does she confer such unlimited favors, as to make one master of several. Thus we see a capital draughtsman, an indifferent colorist, a good colorist with no eye for form; one excels in portraits, another in animals, and a third in marine views, and so on.

But we do not propose to discuss the subject of natural gifts, or add another word to what has been written about them. Those who think they can accomplish nothing but what they are naturally qualified to undertake, may think so; we take an entirely different view of the subject, and our experience has taught us that when we have fully resolved to master any thing before us, we have been successful.

Those who lack natural ability, must supply its place by an educated ability, and where there is a will to acquire a proficiency in the whole or any part of landscape-gardening, the way is broad and inviting. There is no art but what can be attained in a very great degree by a persistent course of study. We have repeatedly seen an energetic, unconquerable spirit of determination override and outstrip every thing before it; and those who have reached a high position in any pursuit have done it by industry and perseverance. As Ike Marvel says, "There is no genius in life like the genius of energy and industry, and there are no rivals so formidable as those earnest, determined minds which reckon the value of every hour, and achieve eminence by persistent application."

Landscape-gardening, in all its varied forms and applications, is nothing more than a plain, practical, straightforward possibility,—no man possesses it, nor can possess it without a price, and that price is nothing more nor less than years of hard study and hard work; it is the same price that every successful professional man pays for his profession. There is no other way to accomplish it. No short cuts,—no royal roads to learning.

Those who rely upon natural taste or natural

gifts to supply a deficient knowledge, will meet with many disappointments. You cannot discard the established rules and principles of art, any more than you can discard its mechanical details; and until they are acquired, crude natural gifts are scarcely available. Thus, one's natural taste would lead him to embellish a place by constructing each feature separately, and without an absolute knowledge of the result. The fancied idea of beauty held in the brain at the beginning, would yield at every stage of progress to some new suggestion. It, in fact, would be but little else than experimenting for those forms or combinations productive of the most beauty: the same degree of taste that arranges a bouquet by trying the harmony of form or color, is inadmissible in landscape work. The expense and annoyance attending every change is such as to require that all forms be beautiful in harmony with each other, and that they be thoroughly comprehended in every detail of combination and construction, before their creation is commenced. An educated taste and ability adopts the same means of arriving at positive results as are sanctioned by all the arts of design, embellishment and construction, and without which, success is a mere matter of chance.

The folly that supposes there is no step between conception and execution, may practice landscape-gardening under the belief that it is only a gift united to a trade, and that pretends to hold in the mind a perfect conception of an elaborate plan of improvement that can be executed in its minutest details with the most undeviating accuracy.

There is nothing so grossly false, or so inconsistent with all experience in both the polite and mechanical arts, as the power to originate, elaborate, harmonize and perfect in the train, a plan so finished in all its details, so complete in its principles of construction, and so impressive and effective in its proportion, as to admit of no further improvements. The observations made in all departments of art, whether it be architecture, painting, sculpture, music, poetry, or any of the less important arts and sciences, show no exception to this statement. The first expression of a thought on paper, whether it be written, drawn or colored, is but the nucleus around which the artist gathers and works up the elements which compose the useful, the ornamental, or the beautiful. Every consideration of success, and more particularly of *economy*, dictates the studied plan in the creation or embellishment of landscape scenery. These can only be reached by systematic approaches, and by close and careful investigation. It is not in real ground or real objects that combinations or effects should be worked out. Execution should not begin until the design be perfected, and then with the

clear knowledge of what you want; with a positive assurance of an absolute result, the end is certain, and, both artistically and financially, is precisely what was contemplated. To state the contrary, is to pronounce the established medium to excellence in any artistical or mechanical pursuit a sheer fiction.

[Mr. Woodward's articles provoked an interest, which, judging by the great number of communications we have received, was as wide-spread as any subject that has been originated in our pages. Out of respect to this sentiment, we selected a few of these which to our mind presented the most divergent views, and have published them. Had not the subject seemed to interest our readers so profoundly, we should not have thought it worth while to accept them, as it has ever seemed so clear a proposition, as to be unworthy of an argument, that natural taste and capacity, united with untiring zeal and industrious study of collateral arts and sciences, would alone enable a man to make his mark as a master in the art of landscape-gardening. There are natural geniuses and natural fools in every profession, and it is useless discussing where one class begins or the other ends.]

It seems necessary that Mr. Woodward should be allowed a brief space for reply to the various suggestions his remarks have brought forward, which he has well filled,—and we hope this will close the chapter. We can afford little space for abstract discussions, however valuable; and hope the thousands of practical matters which the wide field of landscape-gardening affords will, in future, claim the attention of our numerous correspondents' pens, which the many articles alluded to, show that they can well employ when they like, notwithstanding their usual excuse, that they can "handle the spade and pruning-knife better than the pen."—Ed.]

PROTECTING ROSES IN WINTER.

BY BARTHOLOMEW F. BOHMER, CLEVELAND, O.

I WOULD like to communicate an experience I have made these last two years to you, that is—how to keep tender roses through the winter safe and in a small place. I take my roses up in the fall, trim them considerably back, and sell them in a frame. I kept over a hundred roses under one sash and found them all alive and in good order, even though my ground is very wet. I found not only that I kept them well, but they flowered very fine the whole of last summer. I found this idea stated in the *Ohio Farmer*, some years ago, by Mr. Elliott. In speaking of it, he says: "I have yet to learn that it is not the best way to keep them." If you feel disposed and consider it worthy, you may make use of it.

ENTOMOLOGICAL ESSAY.

Read before the Fruit-Growers' Association of Eastern Pennsylvania at its Meeting in West Chester, on the 13th day of June, 1880.

BY S. S. RATHVON, ENTOMOLOGIST OF THE ASSOCIATION.

(Continued from Page 167.)

BENEFICIAL INSECTS.

23d. *Eshna grandis*, commonly called "Dragon-fly," "Snake Doctor," and "Devil's Darning-needle." Plate VI. fig. 1. Length, from three to four inches; expansion of the wings, from four to five inches; body, cylindrical, and terminated at the caudal extremity with flattened appendages, that open out like a fan; wings, all transparent, and finely reticulated; color, dark brown, with black and green bands on each segment; head, large, and almost entirely occupied by the eyes. The larva and the pupa are both aquatic in their habits and economy. This insect belongs to a large class, the greater number of which are entirely harmless, or are decidedly the friends of vegetation, and therefore of man.—This insect is so perfect in its general organization, that it is regarded by many entomologists as typical of the class *Insecta*. Its sight and flight are remarkable, and also the organization of its mouth, which gives it facilities for capturing its prey that no other insect possesses. It is active both in its larva and pupa states, which are passed in the water, feeding in that element upon worms and grubs, or whatever else it can lay hold of; and when it assumes the winged state, it is constantly on the alert from morning till night, in pursuit of insect prey, and daily destroys an incredible number of moths and flies; and the only objection to it is, that it is rather indiscriminate in its choice of insect food, destroying our friends as well as our enemies.

The four preceding insects belong to the order *Neuroptera*, having four wings each, of a uniform texture, in many species of which the posterior pair are as large as the anterior pair, and especially is this the case with the dragon-flies. These are all that my limited time and space will permit me to submit in this paper, although there are many other species that are either harmless or beneficial. These will be followed by a few examples from the order *Hymenoptera* in further illustrating the subject of these remarks.

24th. *Pimpla lunator*, "Long-tailed Pimpla." Plate VI. fig. 2. Length, from two and a quarter to three inches; ovipositor, from three to four inches in length; expansion of the wings, from two and a half to three inches; color, a glossy black, with yellowish legs and antennæ; also yellow markings upon the head, the thorax, and the abdomen. The male is something less than the female, and is destitute of the ovipositor. This insect is one of our largest species of parasitic insects, and deposits its eggs in the bodies of woodworms, and is capable of reaching a grub as far from the surface as their ovipositor will reach. Some individuals can reach to the centre of a piece of wood at least eight inches in diameter. I have frequently captured them in the act of depositing their eggs. It takes them some time to withdraw their instrument from the wood, and in that way they become an easy prey to their enemies. They are quite abundant some seasons about Lancaster, and their long ovipositor is by the uninformed regarded as a sting, or something with which the animal can inflict a painful wound. This is all imagination, however; for the progress which the insect makes by sawing into the wood is slow, indeed, and the work of withdrawing it again is almost as slow.

25th. *Trogus fulvus*, the "Fox-colored Ichneumon." Plate VI. fig. 3. Length of body, from three-quarters to seven-eighths of an inch; expansion of the wings, one inch and a quarter; eyes and wings, dark brown or blackish; all the remaining parts of the insect, a fulvus or fox-color. Very abundant in Pennsylvania. Visits flowering plants in July and August. This insect confines its operations principally to the larva of *Papilio asterius*, which is found on parsley and umbeliferous plants in general. Blanchard, a French author, says that out of two hundred caterpillars which were taken to ascertain how many would become butterflies, only three produced them; the remaining one hundred and ninety-seven were destroyed by parasitic *Hymenoptera*. This may convey some idea of their benefit to vegetation.

26th. *Hogardia speciosa*, "Tiger Wasp." Plate VI. fig. 4. Length, from an inch and a quarter to an inch and a half; expansion of the wings, from two inches and a half to three inches; color of the abdomen, black, with three interrupted yellowish bands; color of the head and thorax, brown, with light brown markings; wings, transparent yellowish-brown; antennæ, somewhat thickened from the base to the ends. The largest species of *Hymenoptera* known to me inhabiting the United States. This insect builds its cell in the hard ground, and fills it with caterpillars, and also the common *cicada* or summer locust. I saw one carry off a large tobacco-worm (*Sphinx carolina*). These worms are in some manner paralyzed and stowed away in their cells for food for their young.

27th. *Sphex pennsylvanica*? "Blue Mason-wasp." Plate VI. fig. 5. About the same in size and shape as fig. 7, but of a uniform bluish color. It, however, must not be confounded with the blue "mud wasp" so common among us, which also does us some service. This insect also builds its cell in the hard ground, and fills it with caterpillars, cockroaches, and other insects.

28th. *Sphex ichneumonoides*, Dej. "Yellow Mason-wasp." Plate VI. fig. 6. Length, about three-quarters of an inch; expansion of the wings, about one inch and a quarter; thorax, covered with yellowish hairs; wings and body, light brown, except the terminal half of the abdomen, which is black; eyes, black; abdomen, pedunculated. These are not, strictly speaking, the true *mason-wasps*, which build their nests in old walls, out of a sort of cement, similar to the "mud-wasps." They may rather be regarded as "diggers," but at the same time their cells are lined with a cement that is impervious to water, and the whole thing may be dug out of the ground without breaking, in the form of a rough tube closed at the ends. These tubes or cells are filled with caterpillars usually. I have seen this species have caterpillars in its possession that it could scarcely bear off, but had to stop every ten yards or so and readjust its burden, moving along in a series of short flights or bounds.

29th. *Mantis carolina*, Lin. otherwise called "Camel Cricket," "Soothsayers," "Praying Mantis," and "Rear Horse," in different localities. Plate VI. fig. 7. Length, about two inches; color, from greenish to brownish, mottled according to age; thorax, nearly half the length of the body; eyes, very prominent; antennæ, filiform; the posterior and intermediate legs are long and rather slender, but the anterior pair are very large and toothed along the outer margin of the tibia; in sitting, the insect holds the thorax erected, and folds the anterior legs up as if in a praying posture, hence a foreign species has been named *Mantis religiosus*. In the absence of its *real* specific name, I have introduced it as the Northern Mantis, to distinguish it from the Southern.* Doubtless it has been named before, and if so, this name must fall, but it is singular that so common and so *useful* an insect should not have been made more familiar to the *people*, both in regard to its name and its general history. The species may be the same as those found in the south. This insect belongs to the order *Orthoptera*, and the *species* belonging to this *genus* are the only ones to my knowledge that are raptorial in their habits. Although they abound in the Southern States, and are quite common in Maryland and the District of Columbia, yet in Pennsylvania they are comparatively strangers; and from the fact that Dr. Harris and Dr. Fitch say nothing about them in their works, the inference is, that they had never been found in New York or Massachusetts. It gives me pleasure, however, that I am able to inform the Society that a number of them were found upon the banks of the Conestoga within the last year or two. They are known to be most voracious feeders, destroying daily a large number of plant-lice, moths, caterpillars, flies, or any thing living that may fall in their way when hungry. They are also capable of domestication. Mr. Glover says that a lady in Washington City had them in her garden, and so tame as to approach her and receive flies and other insects from her hands. Their development is the same as that of the grasshoppers in general, there being no intermediate or quiescent state, but an activity that begins soon after they are excluded from the eggs, and continues until their career is terminated by cold and the absence of their natural food in the autumn. The females then lay from fifty to a hundred oblong eggs, that are longitudinally cemented together and fastened to a branch, having the appearance of a miniature honey-comb. These eggs are capable of bearing a considerable degree of cold, and are hatched the following spring.

CONCLUSION.

Many more examples of useful, friendly and beneficial insects, and also many more of the noxious kinds, might have been exhibited in addition to the foregoing, but these must suffice for the present. Although nothing new may have been presented, yet there may be some persons who have not heretofore been impressed with the necessity of discriminating between our friends and our foes in the insect world, and who may not have been sufficiently acquainted with them in order to be able to make that discrimination. Insect *friends* have not occupied as much space in history as their importance entitles them to, and hence

* Not having a Southern specimen for comparison when this essay was written, I was under the impression that my Lancaster County specimen was a distinct species, and therefore I had suggested the trivial name of *bonensis*, in contradistinction from the former. I, however, subsequently learned that a living male and female mantis had been brought into this country from the Southern part of Maryland by a gentleman from this city, and that quite a family had sprung from them in a subsequent season, one of which I obtained. Comparing them, I found them identical, and that it is the *Mantis carolina* of Linnaeus. This experiment, however, evinces the practicability of their localization and colonization in the southern counties of Pennsylvania.

nearly all that is written upon entomology outside of the proceedings of scientific institutions or scientific books, has reference to the *noxious* or *hurtful* kinds; when it must become evident that both kinds ought to gain the especial attention of the husbandman.

Our motives for destroying noxious insects are only incidental ones, and come and go in spasms as we happen to be under the influence of favorable or adverse feelings, caused by insect injuries or depredations; but parasitic and carnivorous insects are guided and governed by no such transient or incidental motives; a single and ever-pervading instinct, which has for its object the preservation and perpetuation of their species, and thus fulfilling the fiat of that power which brought them into being, seems to be the impulse by which they are moved; and under the conditions of this state of being they go to work, as mechanically as if they had been regularly educated to it, to carry into execution the behests of their creation. One generation succeeds another in the same perfect order, performing the same amount of labor, in the same manner and with the same results; nor is there a greater state of perfection attained *now* than there was hundreds of years ago, or than there will be hundreds of years hence. I have watched insects through all their stages of transformation, and when they have evolved from the pupa into perfect being, they seemed to look at me with a knowing leer, as much as to say, "You need not trouble yourself about showing me how to get along in this new world, for I know all about it myself." Under these circumstances it must be apparent that some of them are performing a great work for the human family, with greater efficiency than man himself can perform it; and that although much of their labor is silent and unseen, and therefore unappreciated and unknown, yet it is, nevertheless, constant and effectual; and being based upon ever-existing necessities, it is far more beneficial in its general results than any work which man has hitherto been able to accomplish or conceive.

IMPOSSIBILITY.

BY JOSEPH AMRAM.

I HAVE cornered you, Mr. Editor. I hold you by the imaginary button. You must not budge, but listen. It is impossible to paint the rose rosier,—it is impossible to raise wheat on granite rock,—it is impossible to make a horse eat. Granted? Very well; I am coming to it. It is no less impossible to learn landscaping. It is out now, and you can make the most of it. You say nothing to this proposition? Very well, I will explain.

Of the thousand and one topics your ten thousands of readers get treated with in the course of the *Monthly's* year, none gets handled with less satisfaction to them than the noble art of landscape-gardening. Every other number brings an article. I generally see a good name, or smell an able pen; but when I turn that article over,—when I sift it, boil it down, and prepare to use it practically,—it slips through my mental fingers and will not get into shape. Finding John, the other evening, poring over such an article, "Well, John," said I, (and he is an intelligent and practical boy,) "what do you think of the article?" "Sir," said he, "what's the use of all such. *Nix kummervouse?*" That was drastic criticism.

Now for a few generalities which I want to serve up by your leave. Like every other art,—say like poetry, painting, sculpture, composition of music, and the like,—landscaping cannot be taught. Creating exacts two functions of the soul: conception and execution. None but genius conceives, none but talent executes. Of course, I mean properly. It, therefore, takes a man of genius and inspiration to conceive the design of a landscape, *or of its concentrated form the landscape-garden*, and it takes a man of talent to practically execute that design. Now, can a real artist, combining both genius and talent, invention and skill, be otherwise than a very rare bird? Is it not a natural thing, under the circumstances, that the bad and indifferent work must abound,—that gardens, as a general thing, are failures and eyesores?

But talent, you tell me, can get along without genius, and run its useful course. Talent can draw inspiration and borrow the reflection of genius from the study of models; talent can imitate and adapt such models,—models which genius has created. So you say, Mr. Editor, and you say well.

The question, however, is, Can landscape-gardening (or, short and sweet, landscaping) be taught? It, plainly, cannot. See how this leads the direct way to Jansenism! The limits are soon reached where our soul loses her will, keeping only her wishes. I may study hard, and try to awake and develop faculties which may be slumbering within one, I may get skilled to a certain point,—by Jupiter! if the real grit is not in me, that point I cannot pass, and there I stick.

That point, you kindly reason with me, Mr. Editor, that point may be a respectable one.

May be, I reply, it *is* a respectable one. And so much of it may be learned, that little of it is acquired by seeing good models,—and lucky is the man who has good gardens near to study the art by,—and, further, by getting schooled by a proficient master. In that way I may get to know the practical parts, and make a "profession" of them. As to the divine region, though, I still, like Moses, stand and see the Holy Land; but never, never am I allowed to reach it.

GREENHOUSE BOILERS.

BY J. C. R., LIMERICK, MAINE.

SOME difficulties exist among gentlemen gardeners and others, in the management of boilers in greenhouses. Thinking that some of your correspondents, like those of other journals, would like to know how to rid themselves of such troubles, I write you the following. There are allusions made by various writers, that all these troubles arise from the non-experience of gardeners. I say no; but it arises from the non-experience of boiler manufacturers; although I admit that in this country men are employed to take charge of greenhouses who had never served one year in the garden. It would be likely in this case to see those boilers exploding and frightening the natives. Because those men can be employed for a few dollars less in a month, they will take a gardener's situation. The last winter proved these facts to me. Having advertised (the first time in twenty-one years) for a situation, I was offered by extensive firms twenty-five dollars per month,—not a working-man's pay. How can such firms be without such difficulties, for they can hire none other than second-rate workmen for this pay? I do not here pretend to say that those gentlemen who have had those difficulties are not gardeners in all its arts, as gardeners are not boiler-manufacturers. I say they are not all to blame.

Returning to my remedy on boilers, I will give the whole in a few words; but I know there will be differences of opinion, and even objections to my remedy; so that I will state the whole particulars of its discovery. In 1842 I succeeded a brother gardener near Liverpool, England, who then had charge of one of the first boilers in the heating of greenhouses in that vicinity. He told me the reason of his leaving was that he could not get his boiler to work, and that he had lost his whole crop of grapes and pines through it. I asked him the cause. He said that whenever he would attempt to fire up the water forced into the feed-tank and then flowed over, and that he could not get his houses up to any degree of heat. So before I would proceed any further, I made a fire to see what it would do, and found it to be as represented. In ten minutes there was not one drop of water in the boiler. We made out to draw the fire, and through that stopped its roaring. I proceeded to the vinery, then a desolate house, handled all the flow-pipe, and found that behind one of the elbows the pipe was as cold as if no hot water had ever been in it. I perceived that the pipes were stopped by some process or other, and that the water did not circulate through the pipes. At this time there was water in the feed-tank, while

it was evident there could be none in the boiler. I sent immediately for the manufacturer, and told him the trouble. He looked in the feed-tank. Perceiving nothing wrong, he ordered to fire up. Again very soon the little water left began roaring in the feed-tank.

Orders were given to pull down the boiler and replace it with another. I told him I thought I could get rid of the difficulties without taking the boiler down. His answer was, what could I know about it? Still he asked my opinion. I asked him into the vinery, and requested him to drill a small hole in the pipe at the point where I perceived the pipe was hot and cold. He said there could be no harm in doing so. The hole was drilled, and it was two minutes before any water had made its appearance. Immediately the water left the feed-tank. I commenced putting water into the boiler, until I supplied twenty-six gallons. During this time no water was coming through the hole made in the pipe. Then boring two more the whole length, it was all of five minutes before the water commenced flowing freely through those holes; and when it did so, the water in the feed-tank had again disappeared, which took ten gallons more of water to raise it above the valve. Now the discovery was made that air must have got into the pipe and stopped the circulation of the water. There was a small brass top added to those holes in the pipes. Always, when water was given, one or more of these were loosed for a few minutes. "Never was there any thing worked better than this boiler did afterwards," as Mr. Buist says. A top in the boiler was also added, and found to be good, so far as the cleansing out of the boiler is concerned. It is also useful in drawing hot water when needed; but the tops in the pipes are what regulate the whole affair. If those gentlemen will get tops in their boilers and pipes, there will be no need of shooting or guarding against being shot with those straight or crooked guns around corners.

LINNEUS AND LINNÆA BOREALIS.

BY L., HADDONFIELD, N. J.

[Concluded from page 169.]

To return to the *Linnaea*. This Lapland flower is a native of high latitudes and Alpine districts throughout the Northern Hemisphere, though most abundant in Lapland. It is frequent in Scotland, but so rare in England, that but one habitat is mentioned in the British floras. It is not uncommon, I believe, in North America from Nova Scotia to the Arctic regions. It is an interesting and elegant plant, evergreen, with woody and creeping

stems, a little branched, and the young shoots hairy. Its small, drooping flowers are sweetly fragrant, of a rose tint without, and white or yellowish within. It blooms in June and July, and its stalks are two-flowered, whence its common English name, Twin Flower. It is found in moist, shady, rocky soils, generally in evergreen woods. Its long stems, rooting and branching their whole length, cover the ground in large patches.

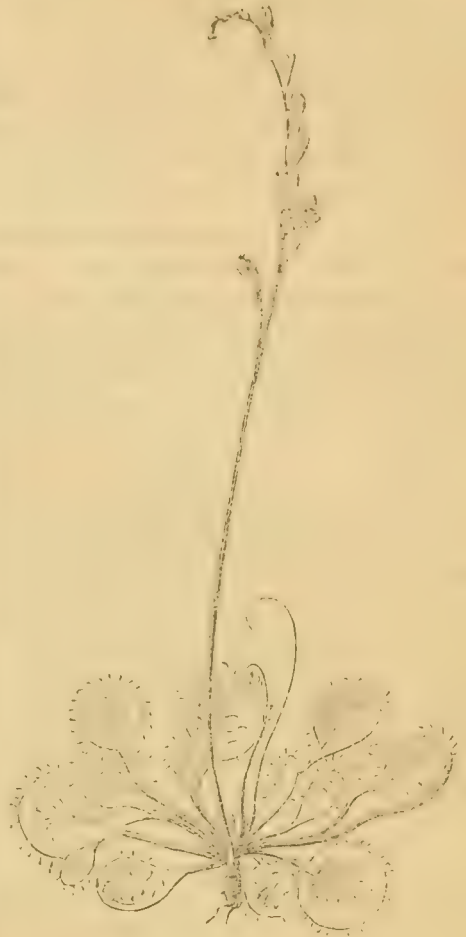
A kindly writer, discoursing on this plant and the origin of its name, exclaims, "Hail to thee, little flower of the North! How highly art thou honored, and with what feelings of interest do we regard thee as the representative of him whose name thou bearest, *Linnaea borealis*!"

In conclusion, we would remark that we hope some of our young readers will profit by the story of poor little Pyphon, and at once enter upon a career of study, collect plants and insects, examine, prepare and preserve them, and make themselves acquainted with their distinguishing characteristics, uses, arrangement, &c. Boys nowadays have an hundred-fold better opportunities for the study of botany than this barefooted devotee. The facilities abound, and he who runs may read. Every farmer's son and every gardener's apprentice ought to blush at his ignorance of the names and positions in the order of nature of the common plants around him, when he considers what that poor, oppressed little fellow did far away upon the border of the Arctic Circle nearly a century ago. Every resident in the country and every citizen who visits it, who is ignorant of the "amiable science," loses half the pleasure of association with nature from want of acquaintance with her children. The study opens to its admirer another sense. To such no longer

"A primrose by the river brim
A simple primrose is to him,
And nothing more."

But the almost "brute, unconscious gaze" of ignorance is replaced by the inquiring, intelligent and appreciating inquiry, and each plant becomes a familiar acquaintance, and revealing to the willing ear and eye the wisdom and power and the ever watchful care of the gracious Creator.

NOTE.—The *Drosera* is the Sun-dew, an ornament of grassy bogs and borders of ponds. Its beauty consists in the form and appearance of the leaves, which proceed immediately from the root, and spread over the surface of the ground, each plant forming a little circular plot of green cup-shaped leaves, thickly fringed and beset with glandular hairs of a deep rose-color. These hairs are usually tipped with small drops of a transparent



[*DROSERA ROTUNDIFOLIA.*]

clammy fluid, appearing like dew, which continues to adhere, even in the hottest part of the day and in the fullest exposure to the sun.

"By the lone fountain's secret bed,
Where human footsteps rarely tread,
'Mid the wild moor, the silent glen,
The Sun-dew blooms, unseen of men,
Spreads there her leaf of rosy hue,
A chalice for the morning dew,
And ere the summer's sun can rise,
Drinks the pure waters from the skies."

There are four species of *Drosera* found in the United States,—*D. rotundifolia*, *D. longifolia*, *D. filiformis*, and *D. linearis*; but about forty species have been described. They have been found in boggy places in all parts of the world, except in extremes of heat and cold. They are singularly beautiful, and worthy of cultivation. They thrive

in small pots, which should be three parts filled with peat earth, and sphagnum should be planted thereon, the *Droseras* planted in the moss, and the pots placed in pans of water. The *Droseras* are allied to the *Dionœa* or Venus' Fly-trap, and bear some resemblance to this singular plant. Insects are often caught upon the hairs, which are not, however, as irritable as those of the *Dionœa muscipula*.

If any of our Northern friends have dried specimens of the *Linnaea borealis*, *Rubus arcticus*, *Drosera longifolia*, *Andromeda hypnoides*, and can spare us some of them, we would be much obliged. They could be placed between thin, stiff cards and enveloped and sent by mail to our address. We would endeavor to make return in plants peculiar to our locality.

We give a cut of *D. rotundifolia*, the more common species.

[In connection with *Drosera longifolia*, we may repeat an anecdote connected with David Don, the famous gardener botanist, author of *Hortus cantabrigiænsis*, that came to our knowledge many years ago. Don was at that time gardener to the Earl of Hardwicke, at Wimpole Hall, Cambridgeshire, and though already wedded to science, had enough of the bigamist in him to promise himself to a lovely specimen of the fair sex. It was the evening before the happy day, when some wicked tempter of his told him that in a swamp at some distance he could certainly find the *Drosera longifolia*, which up to that time he had never found there. He was to be married at noon of that day; but he calculated that by an early start he could go and secure the prize, and still be back in time for the great event of human life. But, alas! on arriving at the spot, he could not find the plant. He searched, and time passed,—even the appointed time, and the bride grew anxious. It was at length found out that he had been exercised at the prospect of his botanical discovery, and search was made for him in the direction he had taken, till found, when to his great mortification he learned that he had utterly forgotten his proposed marriage.

Our young friends will ask what the lady said, and whether they married after that. We have no doubt they did, as young ladies can forgive much; but that part of the anecdote we have forgotten, if, indeed, we ever knew.

David Don died some years ago, and the other Don, George, also a botanist, and author of the "Dictionary of Gardening," died in 1856.—ED.]

LESSONS FROM THE FLOWERS.

BY G. D., SPRINGFIELD, MASS.

THE mind's conception of the beautiful is the

mainspring of its refinement. This faculty is naturally greater in some than in others, but it may be cultivated and developed in all to a greater degree. Many are content to pass their lives, contracting their faculties, energies and tastes to that which is wholly practical, and fail to rise to that higher scale of being where pure and elevating joys will make life's pathway luminous with almost celestial light.

In the Creation God pronounced all things good. Even now, when we have but the wreck of earth's former glory, there are many things which to the wholly practical person were created in vain.

Each particular object in creation bears its own form of beauty, and these varied forms present to the mind their own peculiar lessons. Some give the mind stronger impressions than mere beauty can produce. As we look upon the heavens, or upon the natural wonders of the earth, a feeling of grandeur will fill the mind, to the exclusion of the impressions that they would otherwise produce, and the mind must turn to particular individual creations for this lesson.

Of all objects belonging to inanimate nature, the flowers give us the highest and most varied forms of beauty. To any one who will learn, they give lessons of life, which, if heeded, will profit. Go forth in early morn, while yet morning's pearly tear-drops load the petals of varied hue, each uniting and reflecting the colors of light, blended with the shades of the flower, and as the early rays of the sun silently kiss them away, enjoy their sweetest incense which rises to the end of day.

To the young they appeal while yet the heart is susceptible to all the finer impressions. Their study is calculated to elevate, purify and ennoble. They teach sweet lessons of our Heavenly Father's care. Let their silent breathings of tenderness take possession of every soul. Learn of the flowers what they teach. They will mirror the different elements of moral character,—some of modesty and purity, others of beauty, taste, loveliness, and many, also, of their opposites. Learn, then, the first lessons of Eden, and you will, if you profit by them, possess a charm which cannot be dispelled. Many have thus learned and ever enjoyed the rich blessings which follow. This study will add new charms to life,—new motives to kindness and deeds of virtue.

EFFECTS OF THE WINTER ON FRUIT TREES AT HUDSON, N. Y.

BY A. S. ROWLEY.

MR. EDITOR—I see but few communications in the *Gardener's Monthly* from this section of country. We have the vanity to think that we are not much behind any part of our country in gardening and

horticulture, especially the latter. This, however, I say, without boasting. My chief object in writing at this time is to tell you how our fruit trees in this vicinity have suffered during the past winter and spring. The prospect with us now is that almost all kinds of tree fruits will be a failure the coming season. Our cherry trees refuse to put forth a single blossom. Plum trees not only refuse to blossom, but their leaf-buds appear to be, for the most part, destroyed. Peaches and apricots, of course, are all gone; and in the nurseries I am told that all the young peach trees are killed to the ground, even below the inoculations. Pears seem to have suffered least. The Seckel, however, is destroyed, (I mean its blossom-buds,) except in protected situations. I find a few of the old Seckel trees standing in open grounds have suffered severely. As to the effect of the winter on apples, I cannot speak, having but few myself, and not having examined those in this vicinity. Besides, it is too early to determine satisfactorily. Quince trees have, in many places, been killed to the ground. The smaller fruits, such as strawberries, raspberries, blackberries, &c., will have to be our principal dependence, I fear, this season.

Now, as to that very desirable and popular fruit, the grape. All my Isabella and Catawba vines that were left up on the arbors and trellises (which are eight and nine years old) are killed to the ground. Such as were thrown down on the ground, partially escaped. The Rebecca (of which I have about thirty vines from three to seven years old), loosed from the trellis and thrown upon the ground, with no protection but the snow (when deep enough), is putting forth finely. Not a bud seems to have been killed. Such as were left tied up, I think, are more or less injured. This would indicate that the keen, cold north and north-west winds have as much to do with the destruction of our fruit as the low temperature. Undoubtedly the proximity of the earth to the vine has the effect of drawing out the frost by degrees, or of regulating the temperature so as to prevent its otherwise injurious effects. With me, and, as far as I can learn, in this vicinity, the Rebecca has proved more hardy in similar situations or exposures than the Isabella. My other varieties, the Anna, To-Kalon, Diana, Delaware, and Early Hudson were buried lightly with earth, and have, of course, escaped injury. My Hartford Prolific and Concord had no protection, and are doing well.

The autumn of 1860 being wet and warm, caused both vines and trees to grow too late for the wood to ripen well; and, consequently, they went into the winter (which for severity and suddenness of change of temperature has not been equalled for a period back of fifty years, according to the testimony

of all observers,) more tender than usual. This may account, in some measure, for the destruction of the fruit-buds, which are always on the last year's growth. But this does not explain why the old grape-vines are rent and split through and through for several feet in many cases. Of course, all young wood attached to these old canes must perish with them.

I must close. I am telling a longer story than I intended when I began.

GARDENING FOR LADIES.

BY PRIMROSE, NEW BEDFORD, MASSACHUSETTS.

YOUR *Gardener's Monthly*, Mr. Editor, is a complete success. We inhabit a seaport town in a remote corner of Massachusetts, and yet, even here, your paper has become a necessity. Its arrival is hailed with delight, not only by the frosty heads of the house, but by three earnest children, who eagerly seize upon it to see the pictures of flowers, rural designs and decorations.

With all due respect for other excellent journals, we think *your* periodical well calculated for our meridian, for ours is a *very practical* community.

We have always believed in flowers, as well as fruit, and have tried various plans for window and parlor culture of our favorites, but not with satisfying results, and have decided that gas and coal-dust are not favorable to the development of Camellias, Primulas and Roses. Wardian cases answered partially, but our longing has been for a greenhouse or stove, for culture and propagation. Rejoice with us, then, in the possession of a well-arranged brick lean-to, 25 by 12 feet, heated by a small furnace and hot water pipes, and nearly filled, at this present writing, with a moderate variety of, we flatter ourselves, well-conditioned and thriving plants.

Our first paper of seeds, in especial preparation for our greenhouse, was of *Lophospermum scandens*, which we sowed in a box about the middle of May, which were in due time potted off, and are now rambling about the rafters and rods of said house, with their bright pink tubular blossoms, showy and rich; *Maurandias* and *Cobea scandens* share the room with them, and our seedlings are doing well. Late in the summer we wrote to our friend, B. K. Bliss, of Springfield, for *Cineraria mimulus*, *Rhodanthe*, and *Stock Gilly* seeds, and it really seemed as if every tiny grain had vegetated; so complete was our success as quite to overwhelm us, and create a very large demand for very small pots. In a few weeks the demand was renewed for a larger, and again a still larger size, the transfers being all made by our own hands; and we are now stocked to our utmost capacity, having in this simple way, and by the gifts

of a kind friend and neighbor, collected some 500 plants, which are now in different stages of forwardness. We have been most disappointed in our *Primula sinensis*, which grow so slowly that we begin to think we have not treated them as they best like. Can you tell us a little about their culture? Our special object in this experiment is to discover whether there is any thing in the care of a greenhouse, or stove, which a lady may not accomplish, and thus plant-culture on a large scale may furnish profitable and suitable employment for a few of the hundreds of women who have nothing to do! What is there, Mr. Editor, to prevent ladies going "prentice" to some really intelligent scientific gardener, and by familiar lectures and practice at the "shelfside," becoming thoroughly familiar with the habits and necessities of each species of these lovely, delicate forms of life, so fit for woman's care.

So far, we have discovered nothing about their tending which a woman may not do. In one corner of the house is a brick tank for potting earth, and when emptied it can be replenished by any man who can understand an order for on part well-rotted turf, &c. Our friends, the gardeners in the neighborhood, shook their heads and smiled knowingly; "Your house is too light,—you can never keep your pots clean; you will be full of green flies; you must have an old experienced gardener for this house." But we built a cistern in one corner, put a copper pump in, got a good large syringe, a water-pail, and scrubbing-brush; and hours which would be no better employed, we believe, are spent in experimenting with our pets. Our *Mimulus* are in a blaze of bloom; our *Cinerarias* in promising bud. We are cutting roses, stevias, heliotropes, geraniums, feverfews, and abutilons, for the breakfast table, or the sick room. Our camellias are showing color, and we are consulting your pages with high relish, and wishing our greenhouse was twice as large.

[The above very suggestive note from our lady friend is dated Dec. 8, and has thus been too long at the bottom of our drawer, overlooked.—Ed.]

BALCONY GARDENING.

BY WALTER ELDER.

HAVING read much of the beauty and elegance imparted to Paris and other European cities by balcony gardening, I have long wondered why our citizens who are really fond of flowers, should have so long neglected this species of gardening; but of late years a taste for it has arisen, and is in the increase. Last year I observed many creditable displays through this city, and the hanging pots with creepers are a prominent feature. The simple cul-

ture, small cost, profuse bloom, and delightful fragrance of the falling plants, are inducements for balcony gardening. Verbena, Petunia, Mignonette, Heliotrope, Alyssum, Lobelia, Cuphea, Neiremburgia, Eschscholtzia, Phlox Drummondii, and many others; and for climbers, Maurandia, Thunbergia, Cobia, Nasturtion, Cypress-vine, &c. There is no amusement can be more agreeable and innocent than the watering and care-taking of these gardens, none so cheap and long continued. It creates a hometiveness in the way-wanderer, and it affords a pleasure to show them, and name the different plants to our visitors, and impresses the minds of strangers of the virtuous habits, refined taste, and moral learning of the inhabitants of cities. By all means encourage balcony gardening.

DRAINING TILES FOR POTS.

BY J. P., ROCHESTER, N. Y.

In your issue for May it is stated that horse-shoe draining-tiles have been used in England for bedding-out plants. Some two or three years ago, wishing to present a plant or two of a new vine to some friends, I buried some good-sized (five-inch) horse-shoe tiles near the plant, and bending down some shoots which had purposely been allowed to spring from the base of the vine, I layered them in the tiles. In a short time they made good roots, were transplanted in the height of the growing season, and did well.

I do not make this statement with any view to a "reclamation of priority," but simply because the extension of the application may prove of use to some of your readers. In layering vines, tiles are decidedly better than flower-pots. But pray do not class me with those who, whenever any thing good is published, at once get out with, "Oh, that is nothing new! I did that long ago!" The man who first publishes is the man to whom the community is indebted for a good idea. To those who knew it, but did not give the benefit to their neighbors, no thanks are due. They have no business to come yelping after a share of praise which does not belong to them.

IVY.

B. T. M., BROOKLYN, N. Y.

The following is the description of one of the prettiest uses ivy can be put to. Its dark color, in contrast to the comparatively light green of our grass, renders it fit for the frame of a lawn. For instance, a lawn is staked out, square, circular or oval,—say of forty feet diameter. Sow one foot and a half in grass,—plant three feet with ivy, and the bal-

ance of thirty-five and a half feet again in grass. According to the degree of natural dampness, more or less, ivy roots are necessary; it makes, however, prodigious progress where once established. Care must be taken to stake the ivy down, so that it will not run into the grass; also, when once going, to clip it for the same purpose. In winter, where it might perhaps be frozen out, a few evergreen bushes will protect it.

The trouble bestowed on it for a couple of years is amply repaid by a beautiful setting for your lawn. Flower-beds introduced into the lawn will occasionally heighten the effect.

This device is probably not new to some of the *Monthly's* readers; but to the majority it may be a welcome novelty.

ANOTHER CHAPTER OF HINTS.

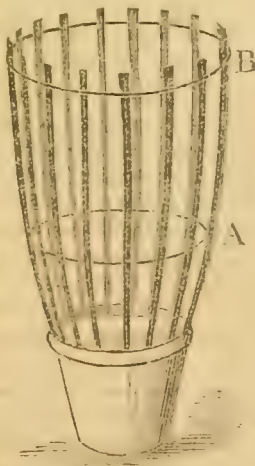
BY S., PHILADELPHIA.

MR. EDITOR:—I was so much interested in reading your Chapter of Hints in last month's number, that it set me to thinking whether I could not furnish you with another, from my experience.

PLANT TRELLIS.

Fig. 1 is a drawing of a trellis for pot plants, of simple and easy construction. First procure a roll of iron wire of about an eighth of an inch in diameter, and cut it into lengths so that it will form rings of several sizes to suit the sizes of the pots. The ring A

Fig. 1.



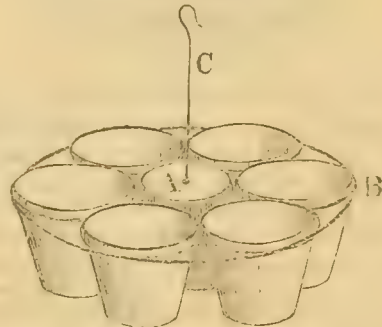
in the cut must be from two to three inches more in diameter than the pot, and the ring B from two to three inches more in diameter than the ring A. Allow half an inch at each end of the wire for welding. Take these wires to the nearest blacksmith, and get him to heat and weld them. You can get a

large number done for a trifle, and they will last for years. Next procure some half-inch white pine boards, free from knots, and have them ripped up at a steam saw-mill into strips of about five-eighths of an inch wide. These strips must be planed off and painted green and cut into the required lengths. When you wish to train a plant, insert these strips into the soil until they reach the bottom of the pot, and close to the side of the pot. Then place the iron ring A *inside* the strips, and about one-third of the way up. Then compress the upper ends of the strips, and put on the ring B *on the outside* of the strips. The pot and the two rings brace the trellis so firmly, that neither wind nor jolting in a cart will affect it. It can be put up or taken down in a moment.

AN EXTEMPORANEOUS HANGING BASKET.

The drawing (fig. 2) requires but little explanation. A is an inverted flower-pot, surrounded by a circle of pots of the same size. This circle of pots is confined by the ring of wire B, which is just below the projecting rim of the pots. The whole is

Fig. 2.



suspended by the wire or rod C, which passes through the hole of the pot A, and is secured to a circular block of wood inside; or instead of the pot A, a block of wood of the same shape may be substituted; in that case, another pot can be placed on top of the block, and the rod passed through the hole in the bottom of the pot. The best sizes of pots for the purpose are five and six-inch. The advantage of this plan is, that when you have a collection of plants in bloom in the same sized pots, you can select such as you may wish, and without the trouble of transplanting, form them into a pleasing and graceful group. The engraver has put *six* pots in the outer circle, instead of *five*, as it should have been.

Commercial gardeners who are limited in means and time, are often compelled to resort to many expedients to accomplish their ends. I have adopted some in my practice which may be new to some,

but not, perhaps, to most of your more experienced readers.

Many varieties of plants require an open, fibrous, peaty soil, and others to have the pots well drained. For want of something better, I use occasionally for the first-named purpose, finely-chopped hay, cut with a straw-cutter, and mixed with the soil. This, with a little coarsely-powdered charcoal, answers the purpose very well. For drainage of pots I sometimes use coarse ashes or cinders of anthracite coal and oyster-shells. I find that oyster-shells that have just been opened are much preferable to potsherds. The plants derive much nourishment from them, and I find the roots often clinging to them most tenaciously.

A very neat mode of supporting tomato-plants, much in vogue in the neighborhood, is the following. See fig. 3.

Fig. 3.



Procure a bundle of four feet long pickets or pales and a bundle of ordinary plastering-laths. Nail the pickets together in pairs, as shown in the drawing, so as to form an angle of about eighty or ninety degrees. Then nail the plastering-laths on them, very much in the same way you would make an ordinary hen-coop. In this way you can put up a long row in a very short time. The tomato-vines are to be planted along each side of this trellis, and will require but little tying, as their own weight will almost be sufficient. The tomatoes should be planted in rows running north and south, so that they will get all the sun. These frames can also be made single pitch. In that case, the rows must run east and west, so as to face the south.

In many gardens where the soil is wet and cold, or during wet and cold springs, the seed of Lima Beans are very apt to rot before they germinate, thus causing a loss of time and seed. The practice is becoming very general among truck-gardeners, to plant the seed about two weeks before it is perfectly safe to set them out, in the back part or corner of a hotbed. They can be planted very thickly, so that the surface of the ground is closely covered. In about two weeks they will have grown three or four inches high, when they can be taken up carefully and set out like cabbage-plants around the poles. I have tried it for two years past, and with perfect success. Before I had often to replant.

RETARDING FRUITS.

BY M. S. F., COLUMBIA, TENNESSEE.

IF this age of money and talent could discover some mode by which we could hold back our trees from early blooming, it would be worth as much as a gold mine. Cannot some mode of general use be adopted that can give us the control of the sap?

I have tried two modes this spring to accomplish this much-desired object—one, to keep the ground and roots cold, and the top warm; the other, to keep the ground warm and the tops cold. The result was, those about which the ground and roots were kept cold, bloomed first, and were the worse killed. This may, however, have resulted from the fact that the trees were different kinds of apricots.

[Heat applied to the branches of a tree induces action, whether the roots are cold or not. We doubt whether keeping the roots cool would have any effect. Shading the branches from the sun is the only plan we know. Our strawberry crop on the sunny side of a hill, is nearly destroyed by the blossoms freezing by the frost of 2d of May. A few on a north side not in bloom have escaped. It would be wise where large crops are grown for market, to have two aspects with the same kind of fruit. If the early crop is destroyed, the late one will then be the earliest.—Ed.]

USEFUL EXTRACTS FOR AMATEURS.

BY C., PHILADELPHIA.

OUR correspondent "C." sends us the following selections, made up from English sources, which will be found mostly of great value.

PEARS.—Dwarf bushes on quince stocks are admirably adapted for gardens exposed to violent winds; and they are also protected from spring frosts by placing around them, so that they rest on and cover the tree,—sticking their ends into the soil,—branches of deciduous trees with their spray-like shoots on, or young branches of evergreens, or even a square piece of calico, which can be easily thrown over the tree when in bloom. The fruit on such trees (dwarf bushes) is generally of increased size, and not liable to be blown off by autumnal gales. If the garden be small, they may be planted four feet apart, and kept in a compact, fruitful state, by being removed biennially early in November. If large trees are desired, plant six to eight feet, and if unremoved, they will soon form good sized prolific bushes.

Biennial removal is the most simple of all methods of root-pruning; it consists in merely digging a trench around the tree about fifteen inches from its stem, early in November, and lifting it carefully out

of the ground with all the earth possible attached to its roots,—shortening with a knife any that are straggling. If the soil be rich, so that the trees unremoved are inclined to grow too vigorously, no fresh compost will be required, and it will be merely necessary before replacing the tree, to shovel into the hole some of the earth from the surface around it two or three inches in depth; this will prevent the tree settling down too deeply. If the soil be poor, some rotten dung, at least six months old, and loam, or any light earth, equal parts, or moor earth may be placed at the bottom in the same manner, and about a wheelbarrow of the same compost over the roots when replanting. The only method to cultivate successfully pyramidal pear on pear stocks, is by biennial removal; in this way they become nearly as prolific as those on quince stocks.

For many years it has been common to hear some gardeners, if lacking energy or enterprise, declaim against pears on quince stocks, I believe only because they require careful culture. I have no hesitation in saying that in the most adverse soils, if the climate be not too cool, they may be grown with advantage in a garden. With biennial removal and fresh compost, they would succeed (as I can show) in solid clay, or in hard, stony and gravelly soils. Give them a favorable climate, and you may make them independent of the natural soil of the garden.

An idea has also been broached, that as the spring frosts are less severe at ten or twelve feet from the surface of the earth, it may be advisable to cultivate our choice pears as tall standards. From 1845 to 1856 our springs (England) were generally frosty and destructive to the blossoms of fruit trees. During that period I have often had crops of fine pears from my dwarf trees when the standard failed, but never once crops from the standards when the dwarf failed to bear. My finest pears are grown on bushes which are taken up and replanted biennially in November. In February, annually, about two quarts of soot are strewn on the surface around each tree in a circle two feet diameter; this is left undisturbed all the summer, owing, I presume, to the constant radiation of heat from the earth. Pears grown on these bushes are quite equal in size to those grown on walls, and superior in flavor.

PLUMS.—When cultivated as a pyramid, the plum tree is a beautiful tree. I have five acres of the finest pyramids ever seen; they are objects of the greatest beauty. In small gardens the pyramids should be lifted biennially. This gives them a proper cheek, and makes the trees abundantly fruitful; but there is for small gardens, or even for large gardens, much exposed, no more interesting or profitable mode of cultivating the plum than as a bush. The biennial removal as recommended for pyramids should be

adopted, and they soon become pictures of fertility. I have a Green Gage Plum ten years old, three feet high and four feet diameter; this in 1855 was breaking down with its load of fruit. For pot-culture in orchard-houses plums succeed admirably, and late sorts will hang on the tree until November, and shrivelling so as to become like a sweetmeat. (See his Orchard-house sixth edition.) "*Quere.*—Would not these orchard-houses give us a plentiful supply of good plums, and escape the curculio; also, apricots, nectarines? They can be constructed very cheap, and really would give more amusement to our ladies and male friends than the neglected and badly-managed greenhouses, useless in summer and expensive in winter. Grapes in pots, strawberries, and an endless variety of fruits, might be daily on the table and not cost one-half the expense of expensive plants, and ever-dying exotics."

RASPBERRIES.—Rivers' report of the new Autumnal kinds is as follows:—

October Red, or *Merveille des Quatre Saisons*, (only four dollars per dozen.) Large, bright-red; bears even more abundantly in autumn than the *Large-fruited Monthly*. Its spikes of fruit are often from twelve to eighteen inches long.

October Yellow, *Merveille des Quatre Saisons* *peut Jaune*, (six dollars per dozen,) has the same habit as the preceding, but gives yellow fruit of a good size and flavor, and bears abundantly.

BLACKBERRY.—*Lawton*. He says:—"This blackberry is very popular in America. It has borne fruit here, and proves to be a distinct variety, giving fruit rather more conical in shape than our English Blackberry, and, perhaps, a trifle larger. In flavor there is hardly any difference, but it ripens about the middle of August, or a full month earlier than our English blackberries."—*T. Rivers*.

GARDENING IN ENGLAND.—At the sea side residence of Queen Victoria, in the Isle of Wight, a large portion of the pleasure-grounds is appropriated to the young Prince and Princesses, who have each a flower and a vegetable garden, green-houses, hot-beds, and forcing-frames, nurseries, cool-houses, and even a carpenter-shop. Here the royal children pass hours of their time. Each is supplied with a set of tools, marked with the name of the owner; and here they work with the enthusiasm of an amateur, and the zeal of an Anglo-Saxon. There is no branch of gardening in which the royal children are not *au fait*. In fact, from the highest personage in the land to the poorest Manchester weaver, gardening has become such an essential part of education and refined culture, that to all classes it is one of the "necessaries of life."

The Gardener's Monthly.

PHILADELPHIA, JULY 1, 1861.

♦♦♦ All Communications for the Editor should be addressed, "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 146 Philadelphia."

♦♦♦ Persons sending two new Subscribers for 1861 in addition to their own, with \$3.00 can receive a copy of our First Volume, 1857, free. All persons who have paid their subscriptions for 1861 by sending two new Subscribers and \$2.00 can receive a copy of the same.

RATHVON'S ENTOMOLOGICAL ESSAY.

THIS month's article completes the series of the above, which we have been publishing for some time. We intend now putting the same in book-form, with the plates COLORED, which will be an invaluable treasure, as it will enable fruit-growers to distinguish at a glance his friend or foe from among the many forms of insect life, and will give to the entomologist a cabinet, which he will be fortunate if he should be able to obtain from nature.

The drawings and colorings may be relied upon as correct, coming as they did from so well-known an entomologist as Mr. Stauffer; and for the letter-press descriptions, we need but allude to the reputation of the author, whose pen the Fruit-Growers' Society of Eastern Pennsylvania was so fortunate as to engage on the subject.

The work will be published in octavo size, bound in cloth, at the low price of 75 cents, or paper at 50 cents.

A STRAWBERRY VIEW.

OF all fruits, the advent of the strawberry season is the most welcome. Epicures may cast their longing eyes at embryo bunches as they pass through their grape-houses,—and the men of heavy means and proportionate patience see all humbler fruits eclipsed in the anticipated luxuries of their pear orchards; but to the mass of the people all these are obscured by the strawberry. That is the fruit for the million. It is very interesting to note the great progress this strongly republican fruit has made in its hold on the hearts of the masses. From forming a dish that might only be set before a king, and which, if history tell truth, even a royal personage has been known to die surfeited; it has successively descended to do duty at the tables of aristocracy, and at the humbler boards of American sovereigns, till he who does not afford the family he governs at least one good strawberry festival in

the season, is not worthy even of a reputation, and is "very poor indeed."

Our strawberry crop is not ripe at the present time of writing, and while our lips are moving in advance of the coming enjoyment, we will suffer our pen to note a few points in the modern history of the strawberry; considering what has been done for it, and what it has done for us, and what we yet expect it to do. About thirty years ago most of the kinds of any note in cultivation in this country were what we should now consider small and very poor bearers, and were mainly imported varieties of the Old Pine and the Scarlet. Of the latter, the Methven, under the name in some localities of Keen's Seedling, was one of the most popular. The Philadelphia markets could furnish little else but this variety, and, if tradition has correctly informed us, very few even of these. About twenty-five years ago the first decided impulse to strawberry-culture was given by the Hoveys in the raising of Hovey's Seedling, which was considered so far in advance of all existing varieties, as to be a wonder of its day, and affording nearly an argument against the doctrine of the great botanist Ray, and which has almost passed into one of the canons of natural history, "*natura non facit saltum*,"—nature does not improve by jumps.

Certainly this was a leap of no mean extent, and strawberry cultivation with it went on at a bound.

But Hovey's plant had imperfect flowers. The stamens were wanting, and the plant in that state could not fertilize itself, and was consequently barren. But it seemed that nature, in rendering the stamens abortive, did so only in order to turn her energies in another direction, namely, a greater profusion of these imperfect flowers. The Cincinnati cultivators were not long in turning these facts to account, and by introducing a few pollen-bearing plants,—staminate amongst the imperfect pistillates, succeeded in fruiting the latter to such an extent that prodigious crops were the result, and while the fruit was thus brought within the reach of all by the low prices, the culture became so general, that for awhile it might seem doubtful whether the Queen City was most famous for her strawberries or her pork.

Our Western friends were proud, and justly so, of their discovery, and with the enthusiasm which history shows to be generally inseparable from really useful inventions, undertook to give to their new application of facts all the merit of novel botanical principles, on which another party of pomologists took issue, and a long "strawberry war" was the consequence, ended only by sheer exhaustion of the combatants. The one party claimed that a strawberry once pistillate or perfect, was always so,

through all its successive generation of runners. The other asserted that under some circumstances changes at times occurred. The question might very well have been left to the laws of the science of vegetable morphology to decide, had not its discussion a practical bearing on the character of nurserymen in regard to the accuracy and identity of the varieties they sent out. History does not record that either of the combating parties were convinced of error, and the only certain fact is, that the "hatchet" was buried, and peace has since reigned undisturbed.

About this time Myatt, of England, was revolutionizing the strawberry-culture of that country with his improved seedlings, and the many new kinds of that country were extensively imported to this, all with more or less failure, and the impression becoming general, that foreign kinds were not adapted to our country, a stimulus was again given to raising American seedlings. Every year brought its varieties,—Phoenix, Burr's Pine, Mc'Avoy's Superior, Genesee, Longworth's Prolific, Cushing, and scores of others, none of which, however, attained any very wide-spread popularity, except, perhaps, Burr's Pine, which, with Hovey's Seedling, can scarcely yet be said to have their glories entirely dimmed by the best of the popular favorites of the present time.

About the year 1852 James Wilson, of Albany, raised the Albany Seedling. He does not appear to have thought very highly of it himself, for it was distributed without much noise or comment, and at a low price, amongst his friends all over the Union. It was found, however, that no strawberry ever had so great a power of adapting itself to local variations as this. It bore well and abundantly, with great regularity and certainty *every where*, and with a small amount of trouble and care, which was a sure passport to the gardens of the masses, ignorant of the greater value and profit of a better class of strawberries, that only required more scientific knowledge and greater practical skill than they possessed to manage properly.

Let the comparative value of the Albany be what it may, the historical fact may not be suppressed, that its dissemination gave an impetus to strawberry-culture with us not less in value to the introduction of Hovey, or the discovery of the sexual theory. We now want a strawberry with all its good qualities, but of better flavor. We hope that amongst the many varieties of last and previous years, such may be found. Will not our correspondents report their experience?

In improved culture, strawberry history is worthy of quite a new volume. It is now pretty well understood, that re-production of plants and the bear-

ing of fruit cannot go on in the same plant at the same time and do full justice to each. It is now therefore a part of the science of strawberry-culture, that the runners must be cut off of fruiting plants; and that to get strong plants, the fruit should be denied the privilege of perfecting. Besides the superior strength of plants from unfruiting parents, nurserymen of correct habits are likely to adopt the plan as insuring greater accuracy of stock, as with the best care, seedlings will at times come up in fruiting beds and mix the kinds, to the great bewilderment of the purchaser, and edification of those who believe in no change of sexual classification. The profits of this mode of culture are also matters of history. One cultivator, Mr. Knox, of Pittsburg, having invested thousands of dollars in this plan, after a careful testing of opposing ones,—and is reaping, it is said, a rich harvest of golden grain as the result of his judicious discrimination.

There is yet one great improvement wanted, which in the name of the people we beg to suggest.

It is all very well for our Cincinnati friends to profess, as our good friend Mr. Longworth once told us they did, that no one wants to eat strawberries without cream; the observation was used, by-the-way, as in favor of a reasonable amount of acidity in some favorite, to which we objected. We know that all the world and his wife, as well as the dear little ones, would like to have strawberries so presented to them, caring little for the cream, that at any impromptu moment they could get and carry away a box of the precious rubies, at pic-nics or on excursions, without the inevitable "owner's box" before their eyes. We want, as they have in Europe, cheap boxes or baskets, to be made by the million for a trifle, and for the sole ownership of the million. The London pleasure-seeker buys his "pottle" of strawberries at London Bridge, before taking his excursion boat for Gravesend, which, after emptying its contents at his leisure, he commits to the surface of the "deep," and no loss to any one. We believe some attention has already been given to it by some of the advance guard of the strawberry-growers' forces, and as they are of that character that knows no defeat, we expect to hear of their successes at no remote period.

THE TARTARIAN MAPLE,

ACER TATARICUM.

THIS is one of the most striking of all the maple genus. The appearance of the tree suggests rather a fine specimen of hawthorn than a maple; and, as it grows close and has a twiggy habit, is very striking, and is eminently characteristic of refined culture when introduced to garden scenery.

When the tree is young and growing thriftily, the berry is three-lobed, and much resembling a young Clinton Grape-leaf. Our sketch was taken from



such a form, grown on a tree near Philadelphia, and is one-half the natural size. When, however, the tree grows further towards maturity the leaves are heart-shaped, and undivided,—the lobes, as above represented, becoming quite obsolete. The flowers grow in erect spikes, close together, and like our Moosewood (*Acer striatum*) in appearance. It is a native of Russian Tartary, quite hardy in this country, and well worthy the attention of cultivators.

EDITORIAL COMPENSATION.

No one not in the secret has any idea of the innumerable annoyances connected with the management of a journal of this kind. One reader cares nothing for this subject,—another for that. Here one man's interest is affected,—there another's prejudice assailed. Questions of a public nature embroil you with your best private friends, and to your enemies you are seldom able to offer a sufficient peace-offering.

In ordinary cases, the knowledge that all this is compensated for by the pecuniary success of one's labors, renders the position of an editor or of a proprietor not altogether intolerable. In our case, where neither the proprietor nor editor went into the cause with any idea of making money by it,

either directly, or indirectly as an aid to any other business, the only compensation desired or expected was that the cause of horticulture might, peradventure, be advanced, and we receive, at least, the gratitude of our fellow-men for our efforts.

We are pleased to say that in this we have not been disappointed. Most of our friends have been animated by the same spirit as we have. They have generously labored to make our little work known, and have extended its circulation, until, with the exception, perhaps, of the *London Gardener's Chronicle*, we believe we have a circulation greater than any purely horticultural journal in the world. Ignoring profit by our labors, our friends have done their duty also, and, by extending our circulation, have saved us from loss,—all that we asked of them.

In addition to this, the many kind words in hundreds of letters, and from the whole agricultural and horticultural press, complimentary to the past and encouraging for the future, have cheered us on in our labors, and at no time have they been more profuse or more earnestly expressed than in the present one of our national troubles. We sincerely say, that at no period of the existence of our periodical has its influence for good been shown so unmistakably as now,—and that we believe, had we a wide choice, we could serve our whole country no better than by acting as its editor.

"Your periodical," writes a distinguished divine of New York, "is the only one that comes to my table that makes me entirely forget war topics, and I thank you heartily for so great a luxury." Another clergyman and valued friend, from Pennsburg, Pa., says, "My mission is eminently one of peace. Our papers are all on the war, and the advent of your *Monthly* is ever anxiously looked for." Similar letters from the North, East and West pour in in abundance. Gratifying as they are, our Southern correspondence during the past few months is still more pleasing, so far as the unfortunate condition of things will admit of any pleasure at all.

Dr. Ravenal, the distinguished botanist and horticulturist of Aiken, S. C., in the first and only letter we ever had the pleasure to receive from him, writes: "I presume post-office communication will soon be no longer open to us; in which case I wish you to take any and every chance you can to send me the *Monthly*. Whatever may be the merits of the controversy between the different parties in our country, (and I hold my own opinion on this subject,) I shall never forget the pleasure your journal has given me, or relinquish my desire to receive it."

And thus up to the day of final mail suspension, scores of letters have reached us, which we religiously cherish,—some recounting what their writers consider the wrongs they have suffered from the

North, others expressing abhorrence at the course of their own neighbors of the South,—some for Union, some for disunion, some for peace, some for war,—but all wishing a long career of prosperity for the *Monthly*; their wish that back files should be saved for them; and determination, should they be spared through the struggle, let the result be what it may, to resume their places in its refining circle.

What greater subject can appeal to our individual patriotism? That in the midst of one of the most heart-rending conflicts the world has ever seen,—when father and son, brother and friends, church against church, and pulpit against pulpit are divided to a greater extent than any history can furnish a parallel,—we should hold in our hands one of the strongest, most pure and lasting bonds of union, drawing together hearts the more strongly as the political and religious relations tend to sunder them, is one of the proudest reflections of our lives,—one overwhelming myriads of such annoyances as we alluded to in the opening of our chapter, and affording us a stronger inducement than ever to persevere in our course of horticultural propagandism, as one of the wisest and best means of infusing love, harmony, peace and good-will amongst men.

Scraps and Queries.

☞ Communications for this department must reach the Editor on or before the 10th of the month.

☞ The Editor cannot answer letters for this department privately.

COLD VINERIES.—*W. F., II., Lexington, Ky.,* writes:

"As I am about building a cold vinery for foreign grapes, I want some information on the subject. 1st. As to the best mode of construction. 2nd. The probable cost of the kind of one you would suggest. 3rd. The best time for planting the vines. 4th. The best plan for preparing the borders. 5th. Which is the best, inside or outside borders; and, (6) as I want them entirely for family use, and not on an extensive scale, give me your opinion as to the best varieties. I wish to build one on a cheap but yet durable plan.

[1. There are two general classes of graperies,—lean-to and span-roof,—and these again may be either flat-roofed or curvilinear. The best mode of construction will depend on the class chosen. For general purposes, the flat-roofed, lean-to, or span is employed. This may be either on the fixed-roof principle or with sashes; the former is now coming into general use. How to construct on the fixed-roof principle is described in detail at page 117 vol.

I. (August number.) That structure was intended for plants; but any one accustomed to greenhouse, or even common hotbed frame building, can readily adapt it to the purpose of a vinery.

2. Houses on this principle can usually be built at from two to five dollars per foot, according to the size or dimensions,—a lean-to about ten feet back, three feet front, and sixteen feet wide, would cost in this section about three dollars per lineal or running foot. A house on the sash principle generally costs more than double that of fixed roofs.

3. Just before the leaves burst in spring.

4. We cannot do better than refer you to an excellent article by a superior practical gardener at Yonkers, New York, at page 139 vol. II. (May), for those who grow on the old border system. It is best to have the border entirely in the house, if sufficient skill and care can be employed in the management of the vinery. They can be grown best this way. Where but little time can be spared for management, we prefer a border to extend both inside and outside the house. In Mr. Bright's hands, the divided and detached borders produce wonderful vines. When you have well managed the old system, you may try your hand at his improvement, which you will find fully described at page 34, Vol. II.; or you might try it on a small scale at first in a part of the house, and if you found you understood it well and could manage it, extend it to the whole house ultimately.

6. Three-fourths of Black Hamburg, and divide the balance between Royal M. scadine, White Frontignac, Grizzly Frontignac, West St. Peters, and, if possible, some of the newer kinds, which may possibly prove to be real improvements, such as Golden Hamburg, or Muscat Hamburg. We must add, however, that we seldom recommend novices to go into novelties on their first trials. It is best for them to start with well-known and dependable kinds.

DISEASED ROSE-LEAVES.—*H. V. F., Logansport, Ind.*—The leaves sent are not, in our opinion, injured by the frost. The following are our reasons for this opinion. The leaves are too far expanded to suffer in that way. Frost will only injure a young growth. When once a leaf is partially hardened, frost will not injure it in the way yours are. Again, the tenderest portion of a leaf is its extreme margin. When injured by frost, this portion suffers first.—Some of your specimens are so injured; but many of them are injured at the base of the leaf, and even the footstalks are browned, while the outer and more exposed portions are not injured at all. We cannot say what has caused the injury without seeing the plants and judging from circumstances. You need not have apologized for the simplicity of your ques-

tion. It is an old and true saying, that a reasonable amount of skepticism is necessary to make a true believer, and in no case is it so wise to doubt as in those little circumstances that daily come under our observation, in which persevering industry will certainly convince us of the reason and cause. Extensive knowledge is but a series of small observations, and for this reason, as our past pages show, we are ever ready to aid our friends in solving these "simple things."

ADVERTISEMENTS—*Note from J. B. Good.*

YORK, PA., June 13th, 1861.

Mr. Thomas Meehan:—

Dear Sir—In the last number of the *Gardener's Monthly* I notice a letter from Henry Kohly, of Greenville, Ills., in respect to my Grape advertisement, &c. From what I can judge of his writing, I come to the conclusion that the man must have been insane or very absent-minded, as the enclosed letter from him will show. This is the only letter that I ever received from this Henry Kohly. If he did send any money, (*which I doubt very much,*) it never reached this place nor came into my hands, as the enclosed is the *only letter that I ever received of him, and there was not a particle more* in it than what I send to you. He says that his first letter was dated February 11th, 1861; whereas the enclosed letter proves positively that he is wrong, as this is dated January 30th, 1861, and is, I think, based upon my January card of Grape-vines, as he *makes no mention at all of cuttings*. To this letter I sent him the communication you published, and dated "*February 16th, 1861,*" and with my signature. You will know his handwriting, and can judge for yourself who is the greatest swindler in this case. Does this man mean to put a false charge against me, and thereby defame me? He says he never noticed my card before the 11th of February; whereas the enclosed letter from him shows quite to the contrary.

In respect to others there may be who did not receive their vines, or were dissatisfied with them, I am willing to make every thing right next fall. Through the present crisis in the country and other embarrassments, it was impossible for me to attend to my orders as should have been done. I hope that all will come right again.

Respectfully yours,

JOHN B. GOOD.

[This letter fully justifies us in the course we have uniformly adopted, not to interfere between nurserymen and their customers, for the reason that we cannot know the exact facts, and are in no position to judge of the justice or injustice claimed. In our last, Mr. Kohly says his first letter to Mr. Good was written February 11th. Mr. Good now

encloses one dated from "Greenville, January 30.h," as quoted in the letter of Mr. Good printed last month, and the envelope, post-marked "Greenville, January 31st," and the conclusion is inevitable that Mr. Kohly is mistaken. So far, Mr. Good has entirely the best of the controversy. And now, as to the other, how shall we decide? Mr. Kohly says he sent money to Mr. Good. Mr. Good denies receipt of it. First, as to the probabilities. We know there are men who would receive money and deny it, and then we also know that the mail is unreliable at times, and that letters will get lost. The probabilities may be for or against Mr. Good; but to the actual facts, what have we whereon to form a judgment?

The last paragraph of Mr. Good's note demands a word. We stated in our last that we had received many letters similar to Mr. Kohly's, complaining of Mr. Good. Mr. Good here seems to admit that there is some ground of complaint, and excuses himself on account of the "crisis" and "other embarrassments." If Mr. Good means that he has received orders and money, as many parties write to us they have sent, and, neglecting to acknowledge or in any way notice their letters and remittances, offers the above as a satisfactory apology, we presume it is not likely to be successful. We must, however, say, as we have before said repeatedly, that we cannot consent to stand between advertisers and their customers. We had scarcely commenced our work before we thus cautioned our readers, at page 73 of Vol. I., in answer to a correspondent who supposed "simple-minded people" take it for granted that a paper endorses "an advertisement," that we had no sympathy with those who were "simple-minded," and declined to interfere. Again, at page 121 of the same volume, we expressed the same views. We advised our readers not to buy of those who advertised in our paper, without "previously satisfying themselves of their character for honesty and fair dealing." At page 245, Vol. II., in reply to a Canadian correspondent, we again repeated the principles we had adopted, and declined to interfere in the case.

Our rule is, to admit no advertisements of a business into our columns when we know that such business is essentially a swindle. Thus we have uniformly refused to advertise for a so-called "nursery" in Kentucky, and for other "quack" concerns. But when the business is legitimate, we cannot interfere with the man's *manner of conducting it*. Deal with those you know to be prompt, honorable and reliable. If you think you can get a better bargain by trusting your purse and your confidence into the hands of entire strangers, whose only recommendations may be flashy-written advertisements, "tre-

mendous sacrifices," "selling regardless of cost," and other clap-trap, why should we be called upon to sympathize when the buyer finds his "bargain don't amount to much?"

So far as Mr. Good is concerned, it is but justice to add, that we have just received two letters, one from a respectable merchant in Baltimore, whom we personally know. He says:—"I gave Mr. Good a heavy order for vines, and received them in good order. They were very fine plants, and satisfactory." The other, whom we also personally know, a Philadelphian, says:—"I sent him five dollars for Delaware vines, and received them. They were small, but are doing well."

With this explanation of our "platform," we hope to have no occasion again to refer to the subject.]

GREENHOUSE BOILERS—*J. T. W., Jackson, Mich.*, wants to heat a house twenty-five by fifty feet, and asks whether flues or hot water would be most economical. He says he can get a small tubular boiler for sixteen dollars, and might want to divide the house in o two sections, the one to be heated when the other was not.

Generally the first cost of a boiler and pipes is ten to one against them, and in favor of flues; though in an account of ten or twenty years, the former comes out much the cheapest. If, however, our friend can get three-inch pipes for about twenty-five cents per running foot with a sixteen dollar boiler, have hot water, by all means, especially when it is desired to have at times one house heated and the other not, which can be regulated by a stop-cock. In the latter case, all that is necessary is to see that the boiler and furnace are large enough to afford sufficient heat for both in the coldest weather. What that size should be, can only be told when the structure and uses of the house were known, and the probable amount of heat required.

LIME, LEAVES, &c—*A Subscriber, Philadelphia*, writes:—"I have put around the roots of my peach and nectarine trees tobacco-leaves, previously soaked in water, wrapping them around the stem about two or three inches below the surface of the ground, and three inches above. Then, after putting back the earth, I heaped air-slacked lime around the collar of the tree. The object was to protect the trees against the ravages of the borer. It afterwards occurred to me that the combined action of the tobacco and lime might be injurious to the trees. Can you say how this is? (1.)

In his work on the strawberry, Pardee recommends watering the plants every ten days or two weeks with a solution composed of a quarter of a

pound of sulphate of potash, of sulphate of soda, of nitrate of soda, and an ounce and a half of sulphate of ammonia, mixed with six gallons of water. But he does not say to what surface this is to be applied—whether half an acre or an acre. Will you be good enough to inform me? and also whether it may be applied while the plants are fruiting? (2).

Is tan a good mulch for pear and other fruit trees? (3.)

[1. We should apprehend no injury under such circumstances.

2. Mr. Pardee, no doubt, means that the plants should be watered with a watering-pot, and in such manner as if the plants were dry and we were using common water merely, and that the mixture should thus go as far as it would in that way.

3. Tan has been found useful as a mulch for strawberries, but not better than any other material for other trees or plants.

PATENT-OFFICE PLANTS—*H. B., Galesburg, Ills.*—The Biota "sinensis" and Pinus pinea that you have received from the Patent Office are very common things, and though they may probably live through the winter in your section, are not very desirable for your climate.

BLACK KNOT ON THE PEACH—*A Subscriber, Leominster, Mass.*—Some time in the autumn of 1859 I noticed a singular excrescence upon one of my young peach trees, which appeared to be identical with the black knot of the plum tree, and after cutting it off, the wood beneath presented the same peculiar appearance as does the wood of the plum beneath a black knot.

Last summer another knot made its appearance just below the spot where the first one grew, which I have also removed, and enclose you a small portion, in order that you may determine whether it really is the same thing as the black knot of plum or not. I have understood that in some places the cherry has become affected by the knot, but I have never heard of their being found upon peach.

[The genuine black knot. We have never seen it before on the peach.]

ANTS ABOUT PEONIES—*H. B., Galesburg, Ills.*—Hot water, in which sulphur has been mixed, poured about the plant, is the best way to make ants leave. If the ants "work on the bud," it is probable that other insects have been there before them, and that they are merely feeding on saccharine secretions the insects have left behind them.

MOUNTAIN ASH SEED—*J. E., Davenport, Iowa.*

—If not sowed until spring, after the seed has been somewhat dried, it will not come up till the second season. If put in sand, kept damp until sown in spring, it will usually grow that spring.

THE AILANTHUS SILKWORM.—*P. Berg, Le Pere, Mo.*
—We have placed your specimens in the hands of a distinguished entomological friend, who will report on them in our next.

New or Rare Plants.

PAVITUM ELATUM, called also *Mulra elatum*, is described in Hooker as a Cuban tree of very handsome inflorescence. To us it possesses interest, from the fact of its being the tree from the inner bark of which the "Cuban bast" of commerce is obtained. It has generally here been confounded with the "Lace Bark" *Lagetta lentearia*, which Sir W. Hooker says it does much resemble.

THE FEMALE AUCUBA JAPONICA.—Mr. Fortune has discovered this in Japan; the male variety of our gardens being the only one so far discovered. He says it bears a profusion of magnificent red berries.

Among the last Japan plants from Mr. J. G. Veitch are some most interesting and hitherto wholly unknown in our gardens, and which, considering the climate that produces them, may be expected to be as perfectly hardy as *Thujopsis dolabrata* itself. We add a few notes concerning them. — *Gardener's Chronicle*:

PINUS DENSIFLORA, *Siebold & Zucc., Flora Japonica*, ii. p. 22, t. 112.—Of this Siebold gives the following account. It is found all over Japan, growing along with *P. Massoniana*. Forty feet high or more. It is more especially found on the slopes of mountains to the height of one thousand to two thousand feet. It, however, occurs at the bottoms of valleys. The timber is of great excellence; its resin is largely in request for the plasters and salves used by the Japanese in healing wounds and sores. In pulmonary complaints they hold it to be a specific. Indian, or China, ink is made from the soot of both *P. densiflora* and *Massoniana*. So far Siebold. The cones are smaller than those of a Scotch Fir, with flat lozenge-shaped terminations to the scales, and very small seeds, with a narrow curved wing. Mr. Gordon tells his readers that this plant is the same as the Stone Pine, an astounding assertion, enough to ruin the credit of any book. (See his *Pinetum*, p. 179.)

PINUS PARVIFLORA, *Siebold & Zuccarini, Flora Japonica*, ii. 27, t. 115.—This is one of the Cembra tribe of Pines, with leaves five in a sheath, and great wingless seeds. According to Siebold, it, although found cultivated all over Japan, is a native exclusively of north of the empire, extending from about 35° N. Lat. to the Kurile Islands. It forms a small tree, not above twenty-five feet high, in the Japanese promanades, but being taller on the north-eastern slope of the Fakone Mountains. The wood is much used by cabinet-makers and turners. There is a dwarf variety, and the species seems much inclined to vary in stature and in the length of the leaves. The cones are oblong, with great blunt thin-edged concave rugged scales, when fully open.

ABIES FIRMA, *Siebold & Zuccarini, Flora Japonica*, ii. 15, t. 107.—Concerning this most beautiful species we collect the following from Siebold. It is a large tree, with the aspect of the European Silver Fir, growing from Kinsu to the Kurile Islands. Its timber holds a fifth-rate place among the Japanese, and is principally used in fancy-work, or for making the cases in which they pack their lacquered goods. It is white, soft, and fine-grained. The cones are about four inches long, pendulous, straight or little curved. Their scales are broad, dull, downy, a little notched at the edge, and beyond them projects somewhat the narrow sharp point of a stiff bracteal scale.

RETINISPORA OBTUSA, *Siebold & Zuccarini, Flora Japonica*, ii. 38, t. 121. (*Hinoki Jap.*)—"A Japanese author says that as a hero is the glory of men, so is the Hinoki that of the forest." So writes Siebold; and certainly the account he gives of the tree would seem to justify the assertion. We have before us a branch of the plant with some cones. In its dried state it looks like a small leaved state of *Thujopsis dolabrata* without its glaucous underside and with a more brilliant green color. It is an evergreen conifer, belonging to the *Arbovitæ* race, and Siebold assures us that it has a straight stiff bole from sixty to eighty feet high, and five to six feet through at the butt. Its branches spread like a fan, and its white fine-grained solid wood shines like silk when worked up. Because of these superior qualities the Japanese consecrate the tree to the Goddess of the Sun, whose chapels and little temples are built entirely of its timber. Moreover, most of the wooden utensils employed at the Court of Micado are formed from it, and retain their natural color without the aid of varnish. The fans of the prince and his women are also made of little slips of Hinoki wood, held together by silken threads, and gleaming with the colors of the rainbow. The country of Hinoki is

chiefly the mountainous part of Nippon, where it forms vast forests, and on account of the high price of its timber, is an important article of trade. Huge piles of colossal balks and planks may be seen collected on the banks of Japanese rivers. The tree is planted for ornament and shade all over the empire.

RETINISPORA PISIFERA, Siebold & Zuccarini, *Flora Japonica*, ii. 39, t. 122. (Sawara Jap.)—A smaller and more slender tree than the last, with sharp pointed leaves, glaucous and concave on the under side. According to Siebold, the leaves are also of a darker green; he saw individuals twenty-five to thirty feet high near a temple at Nagasaki; and found it growing intermixed with *R. obtusa*. Its cones are much smaller, and the oil cysts on its seeds more numerous as well as larger.

VEITCHIA JAPONICA: Lindley, n. g.—Of this extraordinary plant only two mutilated cones, a few seeds, and a small branch have been received; but they suffice to show that it is a wholly new form in the coniferous order, with the seeds of a *Chamaecyparis*, the leaves of an *Abies*, and cones which become, when ripe, more like spherical honeycombs than any thing else to which we can compare them. One would fancy the plant to represent an *Abies*, permanently assuming in the cone the monstrous form so often given to the common spruce by the attack of insects, and then struggling onwards to become a *Sciadopitys* or a *Cryptomeria*. The branches are short and covered with spirally arranged projecting curved pulvines, resembling those of *Abies Menziesii*. At the base of each branchlet is a small cup formed of recurved scales from which the branchlet emerged when young. The leaves are half an inch long, linear, blunt, and glaucous beneath. The cones are erect, downy, nearly spherical, about an inch in diameter, before ripening furnished with incurved horn-like projecting bracteal scales, which at maturity break and disclose as many four-sided sockets or cavities, within which lodge a (to us uncertain) number of small two-winged seeds terminated by a pair of short, straight, tooth-like processes. We cannot do otherwise than associate with this extraordinary genus the name of Mr. J. G. Veitch, its active and intelligent discoverer, and the introducer of so many fine trees previously unknown in this country. For our scientific readers we subjoin a brief technical description:

Veitchia.—Genus *Coniferarum* *Abietearum*. *Strobili* alveolati: i. e. ovariis convolutis omnino connatis demum apice quadratum dehiscens, bracteis cornutis elongatis incurvis maturitate, fragilibus. *Samina* diptera, apice bicornia s. bidentata (numero indeterminata.) *Folia* Abietis.

Sp. l. v. *japonica*, foliis linearibus obtusiusculis glaucis, phyllulis rhombicis, pulvinis elongatis rugulis incurvis, strobilibus sphaericis erectis pubescentibus, bracteis triangularibus elongatis incurvis.

New and Rare Fruits.

NEW FOREIGN GRAPES.—*Ingram's Hardy Prolific Grape* is a fertile setter. The bunches are from twelve to fourteen inches in length, having black oval berries, with the peculiar vinous flavor of the Hamburg, yet more piquant, and combined with a slight spice of Muscat. The flavor is new. Owing to its ripening in a much lower temperature than the Black Hamburg, it is a good sort for a greenhouse. The footstalk of the berry is stiff. It has been exhibited before the Royal Horticultural Society's Fruit Committee, and obtained a first-class certificate; the fruit shown being cut from a vine struck from a single eye that was only fourteen months old from the time of putting in the single eye till cutting the grapes.

Gros Maroc Grape.—This is likely to prove a valuable new purple grape. Its berries are oval, and very large; bunches, shouldered, and very large. Its habit is most vigorous, with large woolly leaves. It ripens with the Black Hamburg in a house without fire-heat, and will hang a long time on the vine, or be kept with great ease in bran, so as to form English raisins, as its skin is thicker than the Black Hamburg. Its flavor is remarkably rich.

Gros Colman Grape.—This is a round purple grape, with very large berries and bunches. Its leaves are large, and its habit coarse and most vigorous; skin thick, and flavor inferior. It is, however, a very showy grape, and, like all thick-skinned grapes, it will hang a long time on the vine.

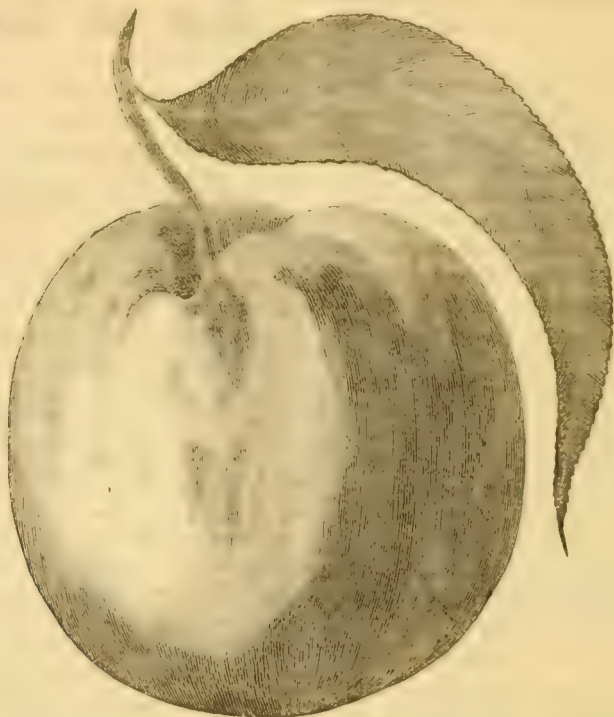
Muscat Troveren Grape.—A variety of the White Frontignan, with very large berries and bunches. Though the flavor is less rich, it promises to be a very desirable sort.

The Japan Grape, or "Yeddo Vine," produces a fruit of great excellence. The bunches are medium-sized. The berries are of a brownish color, thin-skinned, and flavor excellent. This might prove of immense value to our country, where Japan plants usually thrive so well; and we commend the question of its introduction to our "Patent Office," in place of "tea plants" and Red Strap-leaved Turnips.

PULLEN'S SEEDLING PEACH.—On looking over some back files of the Pennsylvania Horticultural

Society reports, we find a seedling peach, raised by Mr. Isaac Pullen, of Hightstown, New Jersey, very highly spoken of, and a premium awarded it.

Not finding it in Downing, and hearing it frequently well spoken of by peach-growers, we give the following cut and description from memorandums by us:



Leaves, with globose glands; fruit, very large, and more compressed in shape than the Crawford's Late; skin, of a beautiful yellow color, with a dark red cheek; flesh, yellow, and of most excellent flavor. Ripens between the 20th and 30th of September. Seedling from Crawford's Late.

Domestic Intelligence.

WOODRUFF'S PATENT PORTABLE BAROMETER.

—This instrument, so useful to the farmer and gardener, is constructed in a strong, compact manner, and can be furnished at a price within the reach of almost every one. See Advertisement.

ON "SKELETONIZING."—There seems an endless diversity among the ornamental arts which serve to occupy the leisure and exercise the taste and ingenuity of that large class of women, who are not wholly engrossed with domestic cares,—for who is there that has no time to embellish the daily routine of care with something of beauty and variety?

There are unfailing sources of female employment in the innumerable variations of crotcheting, knit-

ting, and zephyr work, which, if indulged in to excess, keep our wives and sisters in-doors, in a sitting posture, during hours which might be profitably spent in active and healthful exercise. These employments are, however, being increasingly diversified by others, which, though kindred in their motives, are widely different in their scope, involving the collection and study of natural objects, and corresponding rambles into the woods and fields. In these both sexes may be appropriately associated, uniting wholesome physical and mental recreation with the cultivation of the most refining and elevating tastes.

Several years have elapsed since the introduction of the aquarium or water-garden among us, and a few of these elegant and attractive ornaments are still to be found in dwellings, notwithstanding the difficulty of keeping up the perfect equilibrium of animal and

vegetable life so essential to their success; the fernery, Wardian case and hanging basket, are more easily managed, and at least one of these portable little conservatories furnishes a green spot in many a parlor and drawing-room during the dreary reign of the frost king.

The latest novelty in the way of these ornamental uses of natural objects is that for which the name of "skeletonizing" has been coined; its object is to produce permanent and beautifully white preparations of the frame work or skeleton of different vegetable structures, and to mount these tastefully under glass shades or otherwise.

The study of the intimate structure of all plants discovers among the several kinds of tissue developed during their growth, innumerable membranous vesicles of various shapes, containing starchy and mucilaginous matters chiefly in the fluid state and when developed in the light, a peculiar green coloring matter, called *chlorophyle*. This cellular structure predominates in the stem of the young plant, in the leaf and the immature seed vessel; its functions during the growth of the plant is to assimilate from the air the elements of the plant's food, which it is fitted for by its loose and porous structure, and the free circulation of the sap and air through it.

In the growth of most vegetable structures, and especially of perennial plants, trees and shrubs, the cellular tissue gives place in the stems to *woody* tissue, the fibres of which are drawn out into extremely fine and tough tubes, compacted together into bundles, which, stretching through the plants lengthwise, afford the necessary strength, and, it is supposed, serve to convey the sap from the roots to the digestive organs, the leaves. This woody fibre extends more or less in the leaf, and even into the flower, and forms what are called the veins of the leaf.

To those who have studied this veining of leaves in connection with their great variety of forms, there will be no lack of interest in our new art, but even to the most unobservant *tyro* it cannot fail to acquire interest as he pursues it in connection with the new ornamental art of "skeletonizing."

The cellular structure from its loose texture, the fermentable nature of its constituents, and its permeability by fluids decomposes very readily, when removed from the plant; all must have observed how a heap of fallen leaves blown into a moist place quickly soften into a pulpy mass, exhale fœtid odors, and furnish the matrix for a rank growth of ferns, mosses and toadstools; it is thus that the exhausted soil is constantly replenished by decaying vegetation.—*Friend's Intelligencer*.

[To be Continued in our next.]

WELLESBY, THE SEAT OF H. H. HUNNEWELL, ESQ.—Mr. Hunnewell's place was made entirely by the spade. So late as 1851, the present ornamented portion of the estate, about forty acres, presented to view nothing more than a hideous sandy plain, with scattered clumps of pitch-pine and scraggy oaks. These were entirely removed before any thing else was planted. Then an acre of ground or more was thoroughly trenched and manured, and, when prepared for a nursery, planted with fine varieties of evergreens, elms, maples, oaks, beeches, &c. These were only about fifteen inches high, but were set out where required as they attained growth and hardihood. The lawn was then graded, subsoiled, and cultivated some years before grassing. All the exposed parts of the estate toward the public road were planted out of view; and, until the trees reached a good height, the border was yearly sown with potatoes, the yield in some measure paying for the work. When the situation of the house was finally chosen, avenues from several points were formed by alternating the *Pinus excelsa* and *Magnolia tripetala* with Norway Spruces and masses of rare evergreen shrubs, such as rhododendrons, &c., for one approach, and by white pines and larches for another.

With admirable taste and judgment the formality of the avenues is discontinued on approaching the lawn, with its views of the lake, the Italian garden, and the house and plantations are segregated into groups and single specimens, chosen especially for their beauty and rich effect. About eight acres are here adorned with the finest trees that can be procured, many of them transplanted from a distance of twenty miles, even when nearly thirty feet high, by removing them during the winter, with balls of frozen earth about the roots, to holes already prepared. The keeping of these grounds has minute attention, and all the accompanying features of the place,—the mansion, the terraces, the French and Italian garden, the lake, are on a corresponding scale of magnificence.—*Christian Examiner*.

NEW HAND-GLASS.—We have been shown an invention of Mr. O. S. Cadwell, jr., of this city, designed for the early starting and protection of vegetables in the Spring. It is simply an earthenware, hollow cylinder, of about ten inches in diameter and eight inches in height, with a sloping top, to which is fitted a pane of glass. Holes are provided for ventilation. It can be furnished cheaply, and seems in many ways preferable to the hand-glass now in use.—*Honimstead*.

HOW THE ENGLISH RIPEN LATE PEARS.—Mr. Powell, of the Royal Gardens, according to Mr. Bright, in the *Horticulturist*, says they allow all late

pears to hang on the trees till the latest period of gathering. Give light and air to the fruit store for the first six weeks; after this close the house, and keep the temperature at 45° to 50°. If not colored or ripe at the proper season, put them into a close box, in a warm room or vinery, where the temperature is from 60° to 70°.

HOW TO DISSOLVE BONES.—The following is a copy of a private letter written by the editor of the *Southern Field and Fireside* to a friend who wanted to dissolve a quantity of bones for raising root crops:

"To make a good article of superphosphate from bones, you should use about as many pounds of sulphuric acid as of bones (dry weight); break the bones as fine as you can with an old axe or sledge hammer, (they ought to be ground, if practicable with you,) when they should be wet by the free use of water boiling, adding half as many pounds as there are of dry bones. The half of a molasses hogshead will, perhaps, be as convenient and cheap for operating in as any thing. To the bones and boiling water in this vessel or some other, add slowly the acid, and stir the mass constantly as the acid is poured in. A powerful boiling takes place from the escape of carbonic acid from the bones, which gradually subsides by occasionally stirring; the bones in a week or ten days become like paste, when the whole could be taken out and mixed with perfectly dry loam or charcoal dust, to fit it for drilling with a machine. Where bones are larger, or the acid weak, it may take a month to dissolve their earthy matter; and this end is promoted by covering the large tub or half-hogshead holding the bones and acid with several loads of fermenting loose dung to increase the temperature, where heat is an important element of chemical action. I should not use over one to three hundred pounds of dry bones. Any bones or pieces not softened, I would compost with fermenting stable-manure, whose heat and carbonic acid will slowly dissolve them."

QUINCES.—The Apple Quince, of which there are several varieties, is the common old sort, of rather weak bushy growth, leaves small, light green, oval, sometimes obovate or roundish at the end, and downy on both surfaces.

The Portugal Quince is of much stronger growth; the leaf is large, broad, heart-shaped, glossy, smooth, dark green on the upper surface, lighter colored and downy on the under surface.

Anger's Quince, a hybrid raised from the Portugal, which it resembles very much, but the leaves are a little more pointed, and not quite so dark colored. It has the advantage, that it grows more readily from cuttings than the Portugal, at least in a Northern

climate. It also has the advantage, that it unites well with the pear bud.

Paris or Fontenay resembles the Anger's very much, perhaps its growth is a little more upright. It grows very easily from cuttings, and is probably in every respect equal to the Anger's as a stock; some French nurserymen even prefer it.—*Collon Planter.*

A FANCY HANGING BASKET.—We saw a very beautiful fancy hanging basket in the hands of a lady on the cars. It was composed of a cocoa shell and pine cones. Saw the cocoa in two parts for the cup or frame of the basket, and with prepared glue, attach the small cones of the pine or larch, beginning at the bottom and forming them in rows to the top of the shell. A large cone makes the knob at the bottom. This one was made entirely of cones, but I think one nearly as pretty might be made on the shell of a squash or gourd, covered with acorns and their cups, interspersed with pretty mosses, where coco shells and pine cones are not to be had.—*Field Notes.*

A NEW CANADIAN DYE.—Professor Lawson has exhibited specimens of a new dye of great richness, prepared in the laboratory of Queen's College, from an insect, a species of coccus, found for the first time last summer on a tree of the common Black Spruce (*Abies nigra*, Poir.) in the neighborhood of Kingston. This new dye closely resembles true cochineal, a most expensive coloring matter, capable of being produced in warm countries only, and which is used to give a fine and permanent dye in red, crimson and scarlets, to wool and silk. Unlike cochineal, the new dye, discovered at Kingston, is a native Canadian product, and capable of being produced in temperate countries. Having been but recently observed, a sufficient quantity has not yet been obtained for a complete series of experiments as to its nature and uses; but the habits of the insect, as well as the properties of the dye, seem to indicate that it may become of practical importance. In color it closely resembles ordinary cochineal, having rather more the scarlet hue of the flowers of *Adonis autumnalis*, and, no doubt, other shades will be obtained.

CHEAP ROOFS.—A very simple and effective roofing for barns and other out-houses, is made in the following manner: First cover any description of light rafters with well-seasoned, three-fourths or inch thick boards; then cover with sheathing paper, giving sufficient lap—about two inches—and fasten with small, flat-headed nails, and give this a coating of asphaltum and fine sand mixed, and laid on hot. If asphaltum is not easily procurable, a good substitut

is made by mixing eight gallons of tar with four pounds of rosin; boil and spread on while hot, and sprinkle with dry sand—all it will take—before cooling. A roof constructed of such materials can be made almost flat, a run of one inch to the foot being amply sufficient. With asphaltum, procurable in any quantity in San Francisco, a durable and cheap roof is obtained.—*California Farmer.*

SOLANUM FENDLERI.—In Western Texas and New Mexico a new species of the potato was discovered some years ago, which, from its being so closely allied to the common potato, great expectations were formed that it might resist disease, and, perhaps, supplant the common potato. As we believe Mr. Fendler, the distinguished botanical collector, who discovered it, and in whose honor it was named, is now engaged in connection with the Botanical Garden of St. Louis, we call attention to the matter, in the hope that he may be able to put some parties on the track of introducing it for experiment.

FERTILIZER FOR CABBAGE.—Superphosphate of lime, especially when mixed with some rotten wood (not pine wood) and worked into the ground, has a powerful effect on cabbages.—*Cotton Planter.*

APPLES IN OREGON.—This is becoming a staple crop in Oregon. The *O. Farmer* says one firm in Portland have been "for a long time past bringing over one thousand bushels per day."

FARFUGIUM GRANDE has been found quite hardy on the grounds of Hovey & Co., Boston, Mass.

TO STOP LEAKAGE IN HOT-WATER PIPES.—Get some iron borings or filings, and mix them with vinegar, forming it into a salve; with this fill up the cracks where the leaking is; and if the pipe has been previously dried, and is kept dry until this has become quite hard, it will never fail to effectually stop the leakage, and will stand for a length of time. If an iron pipe should burst, or there should be a hole broke into it by accident, a piece of iron may be securely fastened over it, by bedding it on, in a salve made of iron borings and vinegar; but the pipe should not be used until it has become perfectly firm.

REPORT OF THE MISSOURI STATE FRUIT-GROWERS' ASSOCIATION in answer to the questions proposed by the American Pomological Society:

ON APPLES.

Query? In an orchard of one hundred trees for family use, what SIX, what TWELVE, and what TWENTY varieties of apples, and how many trees of

each variety can be recommended for cultivation in the State of Missouri?

Answer: As known to be adapted to the central and south-eastern portions of the State:

First—For 100 trees, the best SIX varieties for family use are—Early Harvest, 8; Maiden's Blush, 12; Fall Queen, 15; Ortley, 15; Wine Sap, 25; Newton Pippin, 25.

Second—The best TWELVE varieties for family use are—Early Harvest, 6; Red June, 4; Maiden's Blush, 10; Fall Queen, 8; Rambo, 6; Ortley, 10; Yellow Bellflower, 6; Pryor's Red, 6; Newton Pippin, 13; Rawle's Janet (Jeneton), 13; Michael Henry Pippin, 6; Wine Sap, 12.

Third—The best TWENTY varieties for family use are—Early Harvest, 5; Red June, 3; Red Astrachan, 3; Sweet Bough, 2; Maiden's Blush, 7; Rambo, 5; Fall Queen, 6; Newtown Spitzenberg, 4; Fameuse, 4; Ortley, 6; Yellow Bellflower, 5; Michael Henry Pippin, 5; Pryor's Red, 5; Wine Sap, 8; Newtown Pippin, 8; Swaar, 3; Æsopus Spitzenberg, 3; White Pippin, 5; Lemon Pippin (Long Green), 5; Rawle's Janet (Jeneton), 8.

Query? For an orchard of one thousand trees, what varieties, and how many of each, can be recommended for market purposes?

Answer: 100 Early Harvest; 50 Red June; 50 Red Astrachan; 50 Fall Queen; 75 Ortley; 100 Wine Sap; 125 Jeneton; 150 Newtown Pippin; 50 Little Romanite; 50 Michael Henry Pippin; 50 Pryor's Red; 50 Smith's Cider; 50 White Winter Pearmain; 50 Willow Twig.

Obituary.

BOTANICAL NECROLOGY FOR 1860.

BY PROFESSOR ASA GRAY, IN SILLIMAN'S JOURNAL.

PROFESSOR HOCHSTETTER, of Esslingen, Württemberg, died on the 19th of February, at the age of seventy-four years. The Rev. Prof. Hochstetter produced no important botanical works; but he and his associate Steudel, whom he survived two or three years, were active promoters of botany through the *Unio Itineraria*, an association for furthering botanical collections—of which they were the managers.

PROFESSOR J. G. C. LEHMANN, of Hamburg, who died on the 12th of February, in his sixty-eighth year, was a botanist of note, and a voluminous author. His earliest work, a monograph of *Primula*, appeared in 1817, his monograph of the *Asperifoliae* the year after, that of *Potentilla* in 1820. He elaborated the *Onogræceæ* and his favorite genus

Potentilla for Hooker's Flora of British America; and his last publication of any magnitude and crown-size work was his *Revisio Potentillarum*, a fine quarto volume with sixty-four plates, issued in the year 1876, an excellent monograph.

G. H. VON SCHUBERT, a Bavarian botanist of a former generation, to whom Michel in 1813, under the name of *Schubertia*, dedicated the genus established for our southern Cypress, which Richard had earlier called *Tarodium*—survived until July last, having attained the age of eighty years. He is commemorated in an *Asclepiadeous* genus from Brazil, established by his fellow-countrymen, Martius and Zuccarini.

DR. J. F. KLOTZSCH, keeper of the Royal Herbarium at Berlin for the last twenty-five years, died on the 5th of November last, at the age of fifty-five years. As a systematic botanist, Dr. Klotzsch worked industriously, observed discriminately, but generalized badly, or rather—like others of the same school—wanted that largeness of view which enables the able naturalist to discover, almost instinctively, the true characters and just subordination of natural groups, in the midst of the most diversified details, and that gift of sound judgment as to natural genera in which Linnaeus and the other great masters so much excelled most even of the better botanists of the present age. Dr. Klotzsch's monograph of *Begoniaceae*, and his papers on *Euphorbia* (one of the latter, which dismembers the Linnæan genus *Euphorbia* into more than a dozen genera, published during the past year,) are striking illustrations of the opposite system. The distinctions are, doubtless, for the most part, true and good; their valuation is open to serious objection.

LOUIS DE VILMORIN, of Paris, died on the 22d of March, 1867, at the age of forty-four years. Although his name and that of his venerable, still-surviving father (to whom DeCandolle dedicated the genus *Vilmorinia*,) hardly appears in the catalogue of botanical authors, yet both have rendered important service to botanical science, while contributing most essentially to the advancement of agriculture and horticulture by original observations, and by experimental researches, devised and conducted upon truly scientific principles, respecting the formation of varieties and their fixation into races, and the amelioration and augmentation of the useful products of cultivated plants. A notice of some of the brief but most suggestive papers of the Vilmorins upon this subject was given in the 27th volume (new series) of this journal (May, 1829). In devising and conducting such experiments, often re-

quiring both physiological and chemical knowledge, a delicate skill in manipulation, and a quick eye for natural affinities, the younger Vilmorin was unrivalled; and his death in the midst of so useful and so honorable a career, has left a serious void. It is but just to his memory to acknowledge that we have learned more from him respecting the laws and conditions which govern both the production and the preservation of vegetable varieties and races than from any other source. What with his characteristic modesty he entitled an *Essai d'un Catalogue Méthodique et Synonymique des Froments*, arranging the sorts of wheat known in cultivation under fifty-three sections, reduced to seven botanical species, is a work which required the researches of years, although only a pamphlet of fifty pages, and is his most extended publication. His several articles, since collected under the title of *Notice sur l'amélioration des plantes par le semis, et considérations sur l'hérédité des végétaux* are characteristically brief. But are all the result of the most conscientious, skillful, and prolonged investigations, and all are real contributions to knowledge, the value of which is not to be estimated by the bulk of the record.

J. B. PAYER, one of the botanical members of the Academy of Sciences, and Professor of Vegetable Organography and Anatomy of the Faculty of Sciences, at Paris, died on the 5th of September last, aged only forty-two years. The correspondence of M. Nickles has already supplied a biographical notice of Payer, in the preceding (March) No. of this journal. His speciality was organogeny; his principal work, *Traité d'Organogenie Comparée de la Fleur*, in imperial octavo, with 154 crowded plates, is a very handsome and imposing production, but perhaps not of the highest critical value. His seat at the Academy of Sciences has recently been filled by another organogenist, of excellent promise, M. Duchartre.

JOHN E. LE CONTE, former Major of U. S. Topographical Engineers,—whose death, at Philadelphia, in November last, aged seventy-seven, was announced in our March No., (p.303)—was almost the Nestor of American botanists, although his principal contributions to science, except the earlier, relate to zoology, chiefly to entomology and herpetology. His first botanical publication, a Catalogue of the Plants growing spontaneously on the Island of New York, appeared just half a century ago. Many of the choicest botanical stations even seventeen years later, when Dr. Torrey issued his catalogue of the same district, were as low as Canal Street, and Peck's Slip. Even the earlier author lived to see nearly his whole flora extinguished, swept away by denudation, or uncomfortably overlaid by recent

strata of stone, brick and mortar. Major Le Conte made extensive collections in Georgia at a period when that part of the country had been little explored, and freely imparted his materials and his valuable observations to working botanists. He also published several good botanical papers in the earlier volumes of the *Annals of the Lyceum of Natural History*, New York, and more recently, in the *Proceedings of the Academy of Natural Sciences*, Philadelphia, an *Enumeration of the North American Vines*, and a paper on the species of Tobacco, with which, unfortunately, we are not acquainted. For the last ten or twelve years Major Le Conte has resided in Philadelphia; and we are to expect from one of his scientific associates there, a fitting tribute to the memory of this venerable, genial, and accomplished gentleman and naturalist.

Recipes for Fruits and Vegetables.

MODE OF DRYING THE COMMON RED CURRANT.—The currants should be quite ripe when gathered, with the stems attached, and washed or rinsed effectually and drained off. Then stem them and wash them thoroughly, and to each pound of currants add a quarter of a pound of good Havana sugar; then place them in a preserving-kettle over a fire until they come to a *scald heat*, when they are turned out into white earthen dishes, and exposed to the action of the sun until, by evaporation, they become hardened on the upper side. Then they are turned over, and there remain until they become so on the other side, and so alternate until they become a sort of leathery texture, when they are put away in earthen jars or boxes until wanted for use. Care must be taken to keep them from the dews of night and rains during the process of drying; finally, the utmost cleanliness should be observed from first to last.

When used, enough hot water is required to dissolve them or render them to any consistency suitable for tarts, jelly, etc. At the same time, more sugar is required to make them quite palatable, which must, of course, be governed by taste. Currants in this way have kept well with us for three years, and the presumption is, that they will keep for a longer time if well cared for.—*Horticulturist*.

TOMATO CHOWDER.—To one bushel of green tomatoes add one dozen green peppers, twelve common-sized onions, one quart of grated horse-radish, one cup of ground mustard, one ounce of cinnamon,

one ounce of cloves, whole. The tomatoes, onions and peppers chopped fine. Put the tomatoes and onions in a vessel over night, sprinkle a little salt over them, and in the morning drain the water off; put all together and boil them in clear water until tender; then drain the water from them; pack in a jar mixed with the above-named spices, and pour scalded vinegar over them.—*Rural New Yorker*.

BAKED TOMATOES.—Pour boiling water over ripe tomatoes, and remove the skins; cut them in two and place them in a deep baking-dish, or tin; put bits of butter over them, and add salt, pepper, and a little sugar, flour and water, and bake an hour in a quick oven.—*Rural New Yorker*.

STEWED TOMATOES.—Peel and cut in pieces eight large tomatoes; put them in a stew-pan, with a teaspoonful of salt, half as much pepper, and a piece of butter the size of a large egg; cover and cook an hour; then add a large tablespoonful of rolled crackers or bread-crumbs, and stew half an hour longer. Stir them often, that they may not burn.—*Rural New Yorker*.

GREEN CORN PUDDING.—Grate the corn from three ears of green sweet corn; beat five eggs light, and stir them into a quart of milk; add the corn, with a large teaspoonful of salt, half a nutmeg, grated, and a teaspoonful of lemon extract; add sugar enough to make it sweet, and bake an hour.—*Rural New Yorker*.

Foreign Intelligence.

A NEW VEGETABLE.—There has lately been exhibited at several meetings of the Royal Horticultural Society a new vegetable which promises to become a permanent institution among kitchen-garden crops. It is a cabbage in the form of Brussels Sprouts. The stem is about a foot high, bearing on its summit a good-size-hearted cabbage of the ordinary character; but the stem is covered with small cabbages about the size of a small dessert apple, and these when cooked form an excellent dish, partaking of the flavor of a nice summer cabbage, and without the strong Savoy flavor which distinguishes the Brussels Sprouts. The merit of producing this variety is due to Mr. Wm. Melville, Dalmeny Park Gardens, near Edinburgh, and a very good name by which to distinguish it would be to call it *Dalmeny Sprouts*.—*Cottage Gardener*.

PINKS AND CARNATIONS.—Never grow a pink in poor soil. It is not like some flowers, which merely grow less; but it actually loses its character.

Prefer cow-dung to horse-dung; but either should be fairly rotted into mould.

Let the loam you use be that obtained by laying common turves, cut as if for lawns, up to rot. It is good at two years old.

Use two parts loam and one part dung; and make your bed eighteen inches deep.

Plant nine inches apart, as soon after July as you can get your plants.

Never let more than one stem go up to each plant, nor more than two buds be left on to bloom; any very crowded flowers excepted.

When in flower, take off the bottom shoots for pipings. The top three joints are to be used.

Mix up some of the proper pink soil with a little sand to strike your pipings in.

Stick the pipings half an inch in the compost, and freely water; cover close with a shallow hard-glass, and shade them.

As the bloom pods swell, tie them round the middle with a piece of matting, to prevent the calyx from bursting.

As the petals develop themselves, assist them down into their places, and shade them always from the hot sun.

Give them, from the time they swell their pods to bursting, liquid manure (a gallon of decomposed cow-dung to five gallons of water) once to three plain waterings.

Never leave in the bloom a self-colored petal; take it out when you first see it; for one of these will condemn a whole stand of flowers.

Never let your pipings under the glass get dry; for it is certain destruction.

When rooted, remove them into their permanent beds, or into store beds, three inches apart in the row, and the rows six inches.

Never delay planting till the spring if you can get your plants in the autumn. The sooner they are settled down the finer they bloom.—*Scottish Gardener*.

IMPROVED GARDENERS.—A writer in the *Scottish Gardener* says:

Fifty years ago a gardener who wrote for the press was a sort of prodigy. The horticultural societies publishing transactions, without doubt contributed to the cultivation of this habit in gardeners. But how elaborate and operose were their first efforts; for with much to communicate, they had little skill in the way of telling it. It is believed that, at first, most of the essays and contributions were re-written, or at least carefully pruned and dressed by the

officials of the societies. *London's Gardener's Magazine* set a good example of plain, direct, intelligible writing in the papers of the conductor, and afforded room and scope for the efforts of others who were willing to follow his example. A great advance is manifested, in the number of writers at least, in the numerous horticultural periodicals of the day.

A JAPAN DWARF FIR.—Mr. Fortune, in a recent letter from Japan, speaks of an extraordinary specimen of a dwarfed Fir Tree. Its lower branches were trained horizontally some twenty feet in length; all the leaves and branches were tied down and clipped, so that the whole was as flat as a board. The upper branches were trained to form circles one above another like so many little tables, and the whole plant had a most curious appearance. A man was at work upon it at the time, and I believe it keeps him constantly employed from day to day throughout the year.

CULTIVATION OF THE WATERCRESS.—The watercress, *Nasturtium officinale*, is a native of rills and streamlets, not only in Great Britain, but in nearly all parts of the world, having been met with in such situations on the most distant parts of the earth's surface. Its use as an esculent is no doubt as ancient as it is universal.

The most successful cultivators of the watercress are such as can command a supply of running water near the springs from which it issues, as in the beds at Little Marlow, in Buckinghamshire, and at Rickmansworth, in Hertfordshire. Wherever a flow of water can be kept in command, either to let off or on the beds, there in general the watercress may be grown in considerable perfection.—*London Journal*.

Foreign Correspondence.

Letter from our Occasional Paris Correspondent.

Paris, May 30th, 1861.

FRIEND MEEHAN, heavy falls the hand which pens these lines. Gloomier than ever seems to me the news from my country which summer breezes waft across the ocean. How shall I reconcile the war with cheery gardening talk? And still that is what you want. Well, then, be it so. In *your* paper, at least, all parties will meet as on neutral ground,—that is the prerogative of science, that it elevates us all above terrestrial misery.

And now to your question: wherein differs French gardening most from American gardening?

In a great many things, to be sure. Prominently so at the start that every French suburbanist considers it a matter *de réputer* to have his garden nice and tidy and well kept; consequently he spends more money on it than your average man at home, who is ashamed of a worn carpet, old paint, &c., inside of the house, but considers it extravagant to run a bill with the nurseryman, to buy new gravel and to keep his garden something like as presentable as his parlor. That, you see, makes a vast difference at the beginning.

The real difference is that which the climate works. More tender things can stand the winter here than in your latitudes; whilst your fierce summer sun brings colors generally to greater depth than here.

As to style of gardening, the difference may be best illustrated when I say, that in America art is called in to correct and improve nature, and that is, to my knowledge, the true style of gardening; whilst here in France we imagine an ideal sort of nature, and use art and artifice both to bring it about. Of course, we lose nature by it. Hence the stiff, green screens, the immense green walls, the circles, pyramids, &c., trimmed out of emasculated trees. Distasteful to me for ever; and were I to live in this country for the rest of my life, I would never relish that style. Sometimes advantages are gained by it. For instance, a favorite way to get shade of the densest kind is to plant horse-chestnuts pretty close, and to behead them when they are about ten or twelve feet high, leaving the lowest branches only. These, trimmed up twice a year, spread horizontally, and form a compact roof, through which you can rarely spy the sky.

Stiffness altogether characterizes French flower-gardens. The flowers, plants and trees stand as if on parade, trimmed up, and minding their behaviour. As an instance, all rose trees are high-grafted. No rose whatever is allowed to show any thing but a naked stem, on which a well-trimmed, round and curled head is cultivated. The "single-stem" system prevails.

This excessive trimming robs even the common landscape of its ease and grace. Poplar trees are cultivated by everybody. They grow quickly, and are soon made into money, serving for tying the vine, and other uses, packing-boxes and fences included, incredible as the latter may seem to you. Well, these poplar trees must be trimmed to be kept alive. Here, however, every branch and limb is cut off close to the trunk every few years, and the eye gets shocked at the rows of skeletons which it continually passes.

It is fair now to mention some of the good points. First, the care which characterizes even the humblest garden. Self-esteem and the true love of the

beautiful are evidently elements of the soul of its French owner. Next we notice the variety of flowers, shrubs and trees, and their massing. As an instance, it is common to find in our gardens groups of your own native *Rhododendron maximum*, from six to two hundred in a group. Where do you find your own shrub, than which nothing is more splendid, in that proportion in your own gardens? Perhaps not a hundred of them in famous "Central Park!" You cultivate verbenas on a large scale; so do we in France. You cultivate, though, such a worthless flower as petunias almost as much. May I be forgiven the sin of calling it worthless. To my eye it looks weedy, has no shading in its color, no luring perfume, nothing at all to recommend it. Why not cultivate, above all other things, the rose—the acknowledged Queen of Flowers—with the same passion as the French? Item the hollyhock, of picturesque stature, stately and of immense varieties. Item the pæonies and their hundred varieties,—a tribe of flowers which seems not to be known with you, and still a flower which has the kindness to light up your garden before the roses, fuchsias, &c., have come to bloom. Why, friend Mehan, this ignorance or neglect of the pæonia? Another flower the French cultivate with fondness is the daisy and the pansy. In these and in the massing of showy flowers in single, double and triple belts of various hues, the force of our gardens manifests itself.

Your readers may cry out about the expense of such gardening. So I will wind up with saying that carpets are considered luxuries, *here* very rarely indulged in; *you* consider them and their unnatural flowers a necessity. Again, Americans consider flower-gardening in the French sense of the word a luxury, very rarely indulging in it; whilst *here* it is a necessity. *De gustibus non est disputandum*, but there is no such a thing as good and bad taste.

Yours, &c.,

S. M.

Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.

Official Report.

The regular monthly meeting and display was held at Concert Hall on Tuesday evening, 18th ult.

Although not so large as on former occasions, the exhibition comprised some novelties and objects of interest.

Mr. Robert Buist made a very attractive show of Roses, including some of the latest acquisitions from Europe, arranged in large masses; they presented a very attractive appearance.

Mr. H. A. Dreer presented a beautiful collection of Roses, comprising twenty varieties of Hybrid Perpetuals, ten of Tea, and ten of Bourbons, for each of which was awarded a premium of \$1.

Messrs. P. Mackenzie & Son offered a choice assortment of Roses, and a charming group of Sweet Williams, Amaranth-flowered and Crimson-belted, which attracted marked attention.

Mr. Thomas Meehan's collection of Herbaceous Plants and Shrubs, which, besides in number, comprised some very choice specimens, and received general commendation, as well as the premium of the department of \$2.

Twenty-four plants of Gloxinias, exhibited by John Stone, gardener to W. W. Keen, Esq., of West Philadelphia, was awarded the premium of \$2. He also obtained the award for the best three bunches of Grapes, (Black Hamburgs), \$2.

The prize for Fuchsias—a beautiful show—was awarded to Albert G. Clark, gardener to General R. B. P. of Philadelphia, \$2.

A very rich and beautifully trained plant of the Princess Victoria de Mecklenburg, the fruit of a parasol, was shown by George Penn, gardener to J. H. Hildeburn, Esq.

The variety of fruits displayed was not large, but comprised some noteworthy specimens. Six beautiful and fully ripe Queen Pine Apples, from Wm. Joyce, gardener to M. W. Baldwin, Esq., attested the skill of the grower, and received merited praise, and a special premium of \$1.

John McLaughlin, gardener to Mr. J. B. Baxter, presented three fine dishes of early Cherries, to which was awarded the premium of \$1.

Willie Dreer contributed some very handsome and delicious Cherries of three varieties.

The only variety of Strawberry presented for competition was Wisconsin Albany, of which a fine dish was shown by A. Felton, gardener to Henry Dubring, Esq., and received the premium of \$1. Mr. Thomas Meghran also exhibited a dish of the same, of large size and fine flavor.

A collection of eighteen kinds of Strawberries, exhibited by A. W. Harrison, comprised some new European and American varieties, including the Wizard of the North, Oscar, Wonderful, Crimson Queen, and Excellent among the former, and the Fillmore, Ladies' Pine, Chorlton, Golden Seed, Chilian Pyramidal, and a number of seedlings. A special premium was awarded for this display of \$1.

Mr. Thomas Meghran contributed some Early Peas, and a fine collection of Cucumbers of four varieties. The latter received a special premium of \$1.

To Anthony Felton, gardener to Henry Dubring, Esq., three premiums were awarded, severally, of \$1 each, for best Early Potatoes, Peas, and Beans, and a special premium of \$1 for very fine, large, solid heads of India Lettuce.

The Committee on procuring a new hall for the use of the Society was constituted.

C. H. Rogers, Esq., and John Stone, gardener to W. W. Keen, Esq., were nominated for membership.

John Gilkie, William G. P. Brinckloe, and John McGowen were elected members of the Society.

HORTICULTURAL SOCIETY of MONTREAL.

The Annual Meeting of this Society was held on Thursday evening, 7th March, in the Mechanic's Hall.

The chair having been taken, in the absence of the President, by G. LeGardeur, Esq., the Secretary read the following report:

In presenting their Annual Report, your Board take the opportunity of expressing their great gratification in being able to congratulate the members in the increasing success and progress, and the continued interest taken by all classes in the prosperity of the Society, which now numbers over one hundred members.

Application was made through the Hon. John Rose to the Executive Council, and a grant of \$225 was promptly recorded, and the whole of this amount was paid in premiums. Regarding the formation of a library, as a means of instruction highly desirable, your Board would recommend that a portion of the funds received from Government be set aside for that purpose, and they would venture to hope that the amount would be further increased by donations from members, and all works relating to Agriculture or Horticulture would be thankfully received and acknowledged. Your Board have not failed to notice with pleasure the large number of ornamental shade trees which have, during the past season, been planted in our streets and public squares. This is the more commendable as it has, in most cases, been solely due to private enterprise, and your Board hope that the excellent example set by several of your members, may be more extensively followed, as it would tend to give additional attraction to the streets of our fair city, and add greatly to the comfort and pleasure of its inhabitants. Your Society were invited to assist in the procession at the reception of H. R. H. the Prince of Wales, and it was gratifying to notice the alacrity with which the members responded to this invitation. The floral devices and emblems carried by the gardeners were exceedingly tasteful, and highly creditable to their skill. To Mr. Carroll was awarded a prize for the best floral design representing the Prince of Wales plume. The daughters of the gardeners, carrying baskets of flowers and fruits, formed one of the most pleasing features of the procession. Two appropriate banners were procured for this important occasion, and are now in possession of the Society.

Last year silver medals were awarded to Messrs. J. Nairn, T. Harris, I. Archibald, Thos. Horseman, J. Nicholson, Thomas Wall, and W. L. Jones, while the following took bronze medals, Messrs. Par-

ris, Middleton, Spriggins, Wall, Nicholson, Horseman, Nairn, Davidson, Charles Cooper Clark and Day. Messrs. Davidson, Middleton and Archibald, were the three successful competitors among over two hundred, for the largest amount of money prizes.

Your Board, during the past winter, made application to those members who are proprietors of greenhouses to throw them open, in rotation, during the winter. This request was most cheerfully and cordially accepted, and you have had the opportunity of seeing during our severe winter choice and varied collections of flowers. Your Board would here express their obligations to Messrs. J. Ferrier, Jr., John Torrance, Henry Thomas, and Harrison Stephens, Esquires, for their consideration in kindly placing their conservatories at the disposal of the Society. Your Board would also strongly recommend monthly exhibitions to suit roses, strawberries, and other smaller fruits.

The next business of the Meeting was the election of Directors, who, after the ballot, were found to be as follows:

G. Deschamps, Esq., Hon. Louis Remond, Messrs. Verreux, Principal Dawson, Messrs. Henry Thomas, S. J. Lyman, J. Cooper, Mr. H. Seymour, J. Horseman, J. Archibald, J. Torrance, J. Ferrier, Jr., J. Spriggins, L. A. H. Latour, J. Thayer, Jr., J. E. Gilbault.

The following gentlemen were then elected to fill the different offices during the ensuing year:

President—G. Deschamps, Esq.
 1st Vice-President—J. Lyman, Esq.
 Treasurer—L. A. H. Latour, Esq.
 Secretary—J. Thayer, Jr., Esq.

MASSACHUSETTS HORTICULTURAL SOCIETY.

JUNE 1.

The Annual Spring Exhibition of this Society was held at Army Hall.

The display of plants in pots and of cut flowers was very fine. The largest and most valuable collection of plants ever exhibited, in reference to its extent and the rarity and beauty of its specimens, it has probably never been surpassed in the country.

In "General Collections," Messrs. Hovey & Co., of Cambridge; E. S. Rand, of Dedham; Evers & Company, of Braintree; M. P. Wilder of Dorchester, were the leading exhibitors, and the prizes were awarded to them in the order here observed.

The specimens of Azaleas, Pelargoniums, Cinerarias, etc., were truly splendid.

One of the most interesting departments of the exhibition was a large collection of American Ferns and Flowers, beautifully prepared, presented by Dennis Murray, of Roxbury.

Several handsome specimens of Grapes were presented by Mr. Breck, President of the Society; John Fisk Allen, of Salem, and others.

Mr. Allen also presented fine specimens of different varieties of Cherries, grown in his hothouses. They were regarded with interest as being, perhaps, the only representatives of the species that will be produced in this vicinity the present year.—*Boston Cultivator.*

SUSQUEHANNA AND CHEMUNG VALLEY HORTICULTURAL SOCIETY.

At a meeting of the Susquehanna and Chemung Valley Horticultural Society, held at the Hotel Susquehanna, on the 10th inst., the following named persons were unanimously elected officers for the ensuing year:

President—Ed. E. C. Frost, Elmira.
 Vice-Presidents—David DeLoe, Elmira; C. H. Thomas, Corning; Howard Elmer, Waverly; Wm. Smith, Owego; Wm. Scott, Bro. Fortson.

Corresponding and Reading Secretary—E. P. Brooks, Elmira.
 Treasurers—John M. Foster.

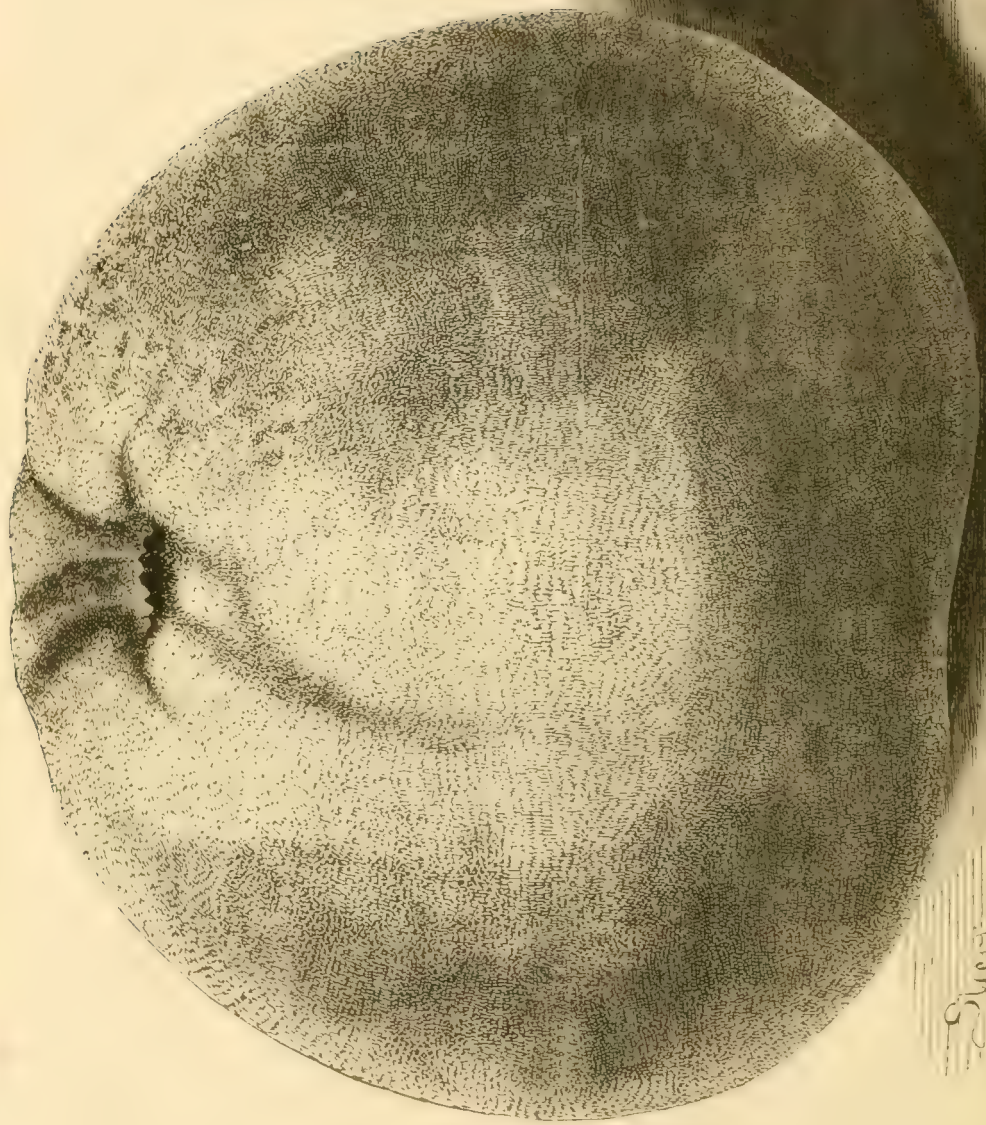
Executive Committee—Harvey Loom, Elmira; N. Winton, Hartman; James Wright, Owego; F. H. Baldwin, Waverly; S. W. Hall, Elmira; A. T. Wynkoop, Chemung; O. W. Pratt, Corning; C. H. Lawan, Painted Post; Thos. D. Wrigat, Binghamton; B. C. Wickham, Tioga.

The Society propose to hold a summer exhibition, the time and place to be fixed at a future meeting of the executive committee.

BANGOR (MAINE) HORTICULTURAL SOCIETY.

The Thirteenth Annual Exhibition will be held in September next. The Society offer a fine list of Premiums for Fruits, Flowers, Vegetables, Cone-work, Canary-birds, Acquaria, Honey, etc.





BUCKINGHAM APPLE.

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

AUGUST, 1861.

VOL. III.—NO. 8.

Hints for August.



FLOWER-GARDEN AND PLEASURE-GROUND.

THE latter end of August is one of the best seasons of the year to transplant evergreens. The young growth of the past season has got pretty well hardened, so as to permit of but very little evaporation, —and the earth being warm, new roots push with great rapidity, and the tree becomes established in the ground before cold autumn winds begin. The chief difficulty is that the soil is usually very dry, which prevents much speed with the operation; and the weather being generally very warm, the trees have to be planted in the ground almost as fast as they are taken up; so that it is not safe to bring them from a distance. It is as well, therefore, to make all ready in anticipation of a rain, when no time may be lost in having the work pushed through. Should a spell of dry weather ensue,—which in September or October is very likely,—one good watering should be given, sufficient to soak well through the soil and well about the roots. A basin should be made to keep the water from running away from the spot, and to assist its soaking in. After being well watered, the loose soil should be drawn in lightly over the watered soil, which will then aid in preventing the water from soon drying out again.

As soon in the fall as bulbs can be obtained, they should be planted,—though this will not generally be the case till October,—but it is as well to bear in mind that the earlier they are planted, the finer they flower.

Towards the end of the month, and in September, evergreen hedges should receive their last pruning till the next summer. Last spring, and in the summer when a strong growth required it, the hedge has

been severely pruned towards the apex of the cone-like form in which it has been trained, and the base has been suffered to grow any way it pleases. Now that, in turn, has come under the shears, so far as to get it into regular shape and form. It will not be forgotten that, to be very successful with evergreen hedges, they ought to have a growth at the base of at least four feet in diameter.

FRUIT-GARDEN.

AUGUST and September are favorite months to plant out strawberries, with those who desire a crop of fruit the next season. In making a strawberry-bed, a warm, dry spot of ground should be chosen, with, if possible, a good loamy or clayey subsoil. A moist, wet situation is very unfavorable. It is best to subsoil at least two feet deep, and if the soil is poor, let it be well enriched with well-decayed stable manure. In setting out, take care that the plants do not become dry from the time they are taken up till they are replanted, and see that they do not wither afterwards. Many persons cut off the leaves, if they are afraid of their wilting under hot suns, but a much better plan is to shade. Inverted 4-inch flower-pots are excellent for this purpose; they may be taken off at night. The dews will so invigorate them, that the shade will only be required for a few days. Sometimes in September they may need a good watering; but this should never be attempted unless a thorough saturation of the bed is given; and in a few days after, the hoe and the rake should be employed to loosen and level the surface, which the heavy watering will, in all probability, have caused to bake and become very crusty. Where time can be spared to layer a few plants into 3-inch pots, they are very successfully transplanted afterwards, and much after labor in watering and shading avoided.

Strawberries are best grown in beds about four feet wide for the convenience in gathering the fruit, and giving them the best of cultivation. About three rows in a bed, and the plants twelve inches apart in the row, will be a good arrangement.

As soon as the fruit has been perfected on the raspberry, the canes that have borne should be at

once cut out. Some kinds throw up suckers very freely, and by this means rob one another and cause a very poor crop to be produced the next season. No time should be lost in thinning out the weaker ones, and only enough canes left that will be required to produce a crop the next season. The raspberry ought to be so treated in the summer, that no pruning will be required in the spring but to shorten the ends of the canes. In rare kinds, where it is of more importance to get up a stock of young plants, than to get a crop of fruit, this advice will not, of course, apply.

Blackberries will, in the main, require very much the same treatment as the raspberry. They are also very liable to sucker up more than is desirable, and much attention will be required to keep them within due bounds. Neither of these two kinds of fruit should be planted near a lawn, as the roots, if they once get into the grass, are very difficult of eradication and as troublesome as the vilest weeds.

Most of the diseases the peach tree groans under arise from the effect of hard winters on the over-vigorous and half-ripened shoots. Root-pruning has always the tendency, not only to throw a tree into bearing early, but also to ripen the wood early in the season, and before the frost can act much to injury.

HOT AND GREENHOUSE.

PREPARATIONS must now be made with a view to stocking the houses for the next winter and spring's use. Geraniums of all kinds may now be readily struck. A frame in a shady place, set on some light sandy soil in the open air, affords one of the best places possible for striking all kinds of half-ripened wood. A partial shade is at all times best for cuttings at the start, though the sooner they can be made to accustom themselves safely to the full light, the better do they usually do.

Seed of many things may also be sown for winter and spring blooming, particularly cineraria, calceolaria, pansy, daisy, Chinese Primrose, and some of the annuals. Great care is necessary with the calceolaria. The seed is so small, that it rebels at the smallest covering of soil. The best way is to sow it on the surface, water well, and then cover with a pane of glass until fairly germinated; this will prevent evaporation and consequent drying of the seed. Almost all kind of seeds germinate most readily in partial shade; but as soon as possible after germination, they should be inured to as much light as they will bear.

VEGETABLE GARDEN.

TOWARDS the end of the month, a sowing of spinach may be made in rich soil, which will come in

for use before winter. That desired for winter and early spring use, is usually sown in September in this region. A few turnips may be also sown for an early crop, but will be hot and stringy unless the soil is very rich.

As fast as endive is desired for salad, it should be blanched. Matting thrown over is the best for this purpose, as the plants are not so liable to rot as when pots or boards are employed. In cold or mountainous regions, melons are hastened in the ripening process and improved in flavor, by a piece of tile being placed under the fruit.

Celery will require earthing up as it grows, to get it to blanch well. It is not well, however, to commence too early, as earthing up tends, in a slight degree, to weaken the growth of the plants. Take care, also, not to let the soil get into the heart in earthing, or the crown is apt to rot.

At this season of the year, more perhaps than at any other, is it important to hoe and rake between rows of growing crops. A loose surface soil not only admits the various gases that the roots luxuriate in, but it also prevents evaporation and checks a too great absorption of heat, and then, besides all this, the weeds are kept down, and neatness and order reigns. After every heavy shower, if the time can at all be spared, the hoe and the rake should be freely employed.

Communications.

NOTES OF EXPERIENCE WITH RARE EVERGREENS.

BY ORCHIS.

THE curious and unusual effects in some instances on our hardy and uncertain evergreens, has been suggestive of new ideas on the theory of soil and climate, as regards the best situation to insure success.

We notice by recent accounts received from England, that where deodars, hollies, &c., have been badly disfigured, camellias and many other plants that will not stand our climate with any chance of success, were uninjured. To some extent this has been the experience of many cultivators with us, with the half-hardy trees and plants.

At this place, about twenty-five miles north-west from Philadelphia, a different experience has been observed in the apparent hardness of our new and rare plants, from those cultivators residing at Germantown and vicinity. To account for this change in localities so near, I do not feel willing, or in fact able to point out the true cause.

For the amusement and probable instruction of a

portion of your readers, I append a condensed list of the newer species and marked varieties of conifers now cultivated with us, with a few remarks on the success that has attended them during the past changeable winter and spring.

The *Abies* have generally proven successful. *A. Menziesii*, *A. obovata*, (sometimes known as *A. Wittmanniana*), and *A. orientalis*, I take great pleasure in recommending as entirely hardy. *A. Morinda*, although somewhat browned, is now growing vigorously. A splendid specimen of *A. Douglassii*, about thirteen or twenty feet high, in the rare collection of John Evans, at Radnor, is entirely uninjured, and is, without doubt, the most magnificent conifer in this section of country.

The *Biotas* are evidently doing as well as in former seasons. The best amongst those not generally disseminated are—*B. orientalis glauca*, *B. do. aurea*, (the beautiful golden variety), *B. do. variegata* and *B. do. pendula*. The latter variety is classed as a species by Endlicher, Lambert and Gordon, but I believe that Jacques is undoubtedly correct in placing it as a variety. Young plants raised from the seed, invariably resemble the *B. orientalis*, and I never saw one with the pendulous habit of the parent.

The rich dark green color of the *B. tartarica* is worthy of notice, although the foliage is deficient in density. *B. (?) meldonensis*, of Lawson, is probably the best recent addition to this family. It is a very doubtful looking arbovitæ; but time will determine its identity after commencing to fruit.

Whilst the great majority of the *Piceas* are looking remarkably well, some of the older, well known kinds have been much injured. Large specimens of *P. balsamea* and *P. pectinata* have been greatly disfigured on the north side of the trees, and a *Taxus baccata* a few feet distant was badly browned on the south side, but wholly untouched on the north. *P. cephalonica*, *P. Fraseri*, *Hudsonica*, (a handsome little dwarf), *P. nobilis*. *P. Nordmanniana* and *P. pichta*, have stood very well and are growing luxuriantly. The latter species is indispensable in a collection, combining as it does, a remarkable dark green color, dense habit and extreme hardness. *P. Pindrow* and *P. Webbiana* are not very satisfactory.

The *Pinus* family has been so greatly enriched of latter years, by the constant and large additions of collections, that to have a complete collection of them, would require an outlay of capital not readily incurred by many arboriculturists in this country. Many of these new candidates for public favor have proven failures here, and others highly desirable.

During the past winter *P. radiata* was killed root and branch, both in sheltered and exposed situations. *P. Australis*, (formerly *P. palustris*), with slight protection and in a retentive soil, is doing very well,

also *P. Benthamiana*, *P. Pallasiana*, *P. Pyrenæica*, *P. Jeffreyi*, *P. Ponderosa*, *P. Tæda*, *P. cembra*, *P. Lambertiana*, &c. *P. Halapensis* and *P. Gerardiana*, dead. A large specimen of *P. excelsa*, the graceful Bhotan Pine that has been greatly admired, after having attained the height of about fifteen feet, gradually decayed at the root, and broke off this spring. I am strongly of the opinion that this desirable tree in other respects, will never succeed with us.

Podocarpus coriacea appears entirely hardy here, and may prove an acquisition. Having several new and untried species of this handsome genus in pots, I am strongly in hopes upon trial of having an addition to the solitary species that has so far proven hardy.

Retinispora ericoides is a charming little evergreen shrub, and, with the exception of a change in the foliage during winter, is faultless.

Sequoia gigantea (the big tree of California) is a favorite here, although not quite as satisfactory in point of hardness as would be desirable. It is extremely impatient of transplanting, and the beauty of the tree is often seriously damaged by the operation.

Cedrus deodara, which has always heretofore given us great satisfaction, is this spring quite brown. This specimen stands on a dry, sandy subsoil, with a southern aspect, and is doubtless the best situation for this variable tree. *C. Libani* wintered beautifully.

Cephalotaxus drupacea and *C. Fortunei* with a slight protection are doing very well.

Cryptomeria looks badly, not at all satisfactory.

Chamæcyparis spherioidea variegata is very desirable; the young shoots are very handsomely spotted with yellow.

Cunninghamia sinensis is apparently quite hardy in a suitable location; our specimen was but little browned, and is now growing thriftily.

Cupressus Lawsoniana and *C. Nootkaensis* (erroneously *Thujopsis borealis*) are beautiful hardy species, and the only two out of a large genus that will succeed here. They are destined, I trust, to be great acquisitions.

The *Junipers*, as ornamental plants in landscape-gardening, are unrivalled. They combine almost every character of the coniferæ, from the formal habit of the Irish to the graceful, drooping varieties of other species. Much the larger portion are hardy, a part half-hardy, and some entirely too tender for us at the North.

The newer kinds that have done well the past season are—*I. drupacea*, *I. hemispherica*, *I. oblonga*, *I. oxycedrus*, *I. rigida*, *I. excelsa*, *I. recurva*, *I. prostrata*, *I. sabina cupressifolia* and *variegata*, *I. squamata*, *I. chinensis*, male and female, *I. tetragona*, *I. cypri*, *I. Stru-tiana*, *I. Scholii*, *I. fragrans*, *I. tripartita*, and *I. deal-*

buta; and those killed — *I. Phænicea*, *I. macrocarpa*, *I. sphaerica*, and *I. alba*. The *Bermudiana*, *I. Mexicana*, and *I. religiosa* are grown in pots; they will not stand at all here.

There are several beautiful varieties well worthy of a place in collections that are entirely hardy. *I. Virginiana pendula*, *I. do. argentea*, *I. do. Gossaintheana*, *I. do. variegata*, and the graceful *I. communis pendula*.

The rare *I. hemisphaerica*, or Hedge-hog Juniper, is a remarkably curious dwarf species, not attaining a greater height than one or two feet. It forms a globular head, with sharp, arrow-like leaves bristling out in every direction.

Libocedrus chilensis obstinately refuses to live in any situation. *L. deurens* rather more satisfactory; stands pretty well.

The Yews with us succeed admirably, by slightly protecting the more tender kinds. *T. adpressa* the most hardy and beautiful. *T. baccata elegantissima* and *aurea* rank next; and the remainder of the family are all handsome, and more or less hardy. *T. canadensis* is very desirable.

There has probably been more confusion in the Thuja genus than all the others combined, owing to the manifold and conflicting opinions and names sent to this country by foreign nurserymen. We have received three or four distinct kinds for *T. gigantea*; and honestly I do not think there is a true plant in the United States that will answer the description given by Nuttall. *T. plicata* has also been confounded with others; it is a very fine species. *T. macrocarpa* has proven to be a Biota; it is, nevertheless, very handsome and entirely hardy. *T. occidentalis asplenifolia* is one of the handsomest of the family. The young branchlets droop very gracefully. The dwarfs *T. do. nana* and *T. do. pumila globosa* are very desirable. *T. do. Hoveyi* is hardy, but not so distinct as we had expected; we trust it may improve with age. *T. Caucasica* promises to be a fine addition; very hardy, rich dark green foliage, rapid growth and very dense.

The rage for conifers has not extended to this country to any extent. In Europe the new species are eagerly sought after at fabulous prices, and the fine pinetums in many places bear evidence of the high estimation in which this natural order is held. We sincerely hope that a greater interest may be awakened with us, and the results in different sections of our country be made known.

GLAZING GREENHOUSES.

BY W. C. STRIPE, KEOKUK, IOWA.

In return for the many items of information which I have received from the *Monthly*, I beg to offer my mite.

I have been much troubled with drip in my green-

house, and have from time to time cudgelled my brain to devise a remedy. I have at last accomplished it. Instead of lapping the glass, I place between each light a strip of lead sash, such as is used in the old-fashioned diamond panes, just filling the opening in the lead with putty. Then insert the glass, not too tightly, and press down the edge of the lead with a knife.

Please bear in mind that this is not mere theory. (We have too much of it now-a-days.) I have given it a thorough trial, and no more trouble with drip,—can now effectually keep out the cold, or rather retain the heat, and have not had a single light broken by expansion.

TRIP TO WILMINGTON, DEL.

BY GRAPTOLITE.

WE have recently visited several fine country seats at Wilmington, Del., which not only deserve notice in the *Gardener's Monthly*, but will furnish some useful hints to your readers.

The first place we visited is owned and managed by Dr. George Pepper Norris, whose name has been rendered familiar to the horticultural public by his essays, published in various journals. As the Doctor has excited a little sharp criticism, by his descriptions of other people's places, we went prepared to give him the benefit of a little close inspection of his own operations. The party consisted of your correspondent, and a Philadelphia "expert" in grape culture, &c. On inquiring in Wilmington where Dr. Norris' country place was located, we were informed that it was about one mile out of town, near the Poor-house; rather an unpromising locality, we thought, for the most enterprising horticulturist in Wilmington, but still in a direction much travelled by some amateurs. A short ride up the hill west of the town soon brought us to the gateway leading to the cottage, and here the fine scenery which burst upon our view, over a panorama of hills, valleys, and rivers, the well-kept carriage-road, the handsome lawn, the fine specimen trees, and the elegant buildings before us, dispelled all fears which we had indulged, that we should find material for criticism on the doctor's grounds. We felt sure that we were approaching the home of taste and skill.

Dr. Norris has, in truth, one of the most beautiful situations which it has been our lot to examine for a long time, and he has improved it in a very judicious and tasteful manner. The Gothic cottage is built of dark blue Brandywine granite, which blends its hues in a manner peculiar to this stone, giving an effect to the walls such as could only be obtained, with other stone, by this most skillful painting and

shading, or by a mixture of paint and fine colored sand. The color is exceedingly rich and pleasing to the eye. The stable and other buildings are all built of the same kind of stone, in semi-Gothic style, and form a very handsome and comfortable looking group.

In pear-culture the Doctor has made a good beginning, and fortunately has a fair show of fruit this year. The grape-houses, which, until lately, have been entirely managed by the Doctor himself, are constructed with the latest improvements in borders, &c., and exhibit more than an average degree of success.

Fruit trees in pots, for the orchard-house, have also been cultivated with very satisfactory results, by bringing them forward in the grapery and ripening them out of doors. The peaches and plums, now in fruit, will rarely be excelled in appearance even with the aid of a separate house for the purpose.

Part of the farm, under the care of an experienced vegetable-grower, is worked with great activity and skill, and produces a handsome return for the enterprise of the proprietor. We examined some acres which could scarcely be excelled in neatness and profitable growth by the veteran truckers of Philadelphia or New York.

The place is yet new, and although it offers no remarkable points of instruction, or great novelties in planting or management, it presents these excellent distinctive features: it is magnificently located, it is laid out and constructed with taste and skill, and is *finished up* as far as its improvements have been attempted, while the whole of it is managed in a judicious and profitable manner. There is no foolish waste, and no rubbish about it, which is a vast merit. We think the Doctor may be permitted to hang up his hat on a high peg in the horticultural halls.

The magnificent place constructed and occupied by Joseph Shipley, Esq., appropriately called Rockwood, situated about two miles north of Wilmington, deserves a more extended notice than we can give it at this time. Without the aid of photographs, an artist, and an engraver, we could scarcely hope to convey any just idea of it. The estate comprises some five hundred acres of romantic hill and valley, mostly covered with natural trees, and apparently surrounded by forests. Few or no dwellings, except those on the place, can be seen from the main lawn within the limits of miles. Mr. Shipley is an English gentleman of fortune, whose name is well known in the commercial world. He commenced this place ten years ago, after plans made in England, and under the direction of Mr. Salisbury, a gardener whom he brought out for that purpose. The entire place is improved upon the plan of *natural* landscape-gardening so much employed in English country

places, where the development of the natural resources of ground and trees, and the heightening of natural beauties by a very little art in clearing up, planting, opening vistas, &c., surpasses in real gratification the most elaborate and costly works of art. Without attempting any general description of it, beyond what we have stated, we will say that it is the most splendid specimen of the English park-like style of landscape work that we have ever seen. The mansion is built of the Brandywine blue rock, before mentioned, with light-colored granite ornaments; the style is that of an oblong Gothic villa, supported by semi-Italian arcades for plants and flowers. The lawn contains some of the rarest ornamental trees that can be grown in this climate, and exhibits specimens of rare size and beauty. The forest work, the lawn, the beltings and groupings of trees and shrubs, and indeed the entire landscape, all appear replete with natural and artificial effects in landscape-gardening, on a large scale, unique, beautiful and grand in the extreme. There is no littleness in any of the work. Whether the place could be still further improved by art, we know not. It might be *altered* in its aspects, certainly; but its grand and graceful natural beauties neither invite criticism nor suggest the necessity of change. To obtain any further idea of the place it must be seen, or pictured by the hand of a true artist. Your correspondent hopes that the publisher of the *Monthly* may, if Mr. Shipley will consent, ere long give us some photographic sketches of the most striking features of the place. We feel quite sure that there is nothing of the kind equal to it, in its peculiar style, in Pennsylvania. It is seldom you can catch Nature in just that beautiful half-wild, wayward, gipsy mood, in which you find her among the rocks and hills on the banks of the old Brandywine. We are surprised that this fine place has existed so long without commanding extensive public notice; and we take real pleasure in giving our horticultural friends information of the rich treat which they may enjoy (under favor of Mr. Shipley) by a visit to Wilmington. Whether he will thank us for dragging his wild-wood and his rock-wood, his fauns and dryads, into the public gaze, or not, we cannot say; but we gave him no opportunity to decline; nor can we believe that he would have the heart not to gratify any true lover of Nature with a view of the rich inheritance which it is his good fortune to possess.

THE JUNE-BERRY AS A STOCE FOR THE PEAR.

BY H. DEIKOPER, MEADVILLE, PA.

In the last *Monthly*, page 190, you report me as saying, in the *Horticulturist*, that "pear trees when

grow upon June-berry stocks are not subject to blight." What I there said was simply, that of half a dozen kinds of stocks used as a foundation for the pear, the June-berry alone was not itself the subject of blight.

After paying a good deal of attention to pear blight, I have come to the conclusion that frosts and severe winter weather are responsible for it in ninety-five cases out of the hundred. If this be so, then no engrafting can remove the difficulty, though it may modify it by inducing slow growth and well-ripened wood, &c.

Experience will have to determine the worth of the June-berry as a stock for it. I shall not be surprised if it prove to have the following good qualities to recommend it, viz: that it is easy of production,—bears transplanting well,—tree grows well either in sod or under culture,—makes a smooth, straight stem,—has a bark well adapted for grafting, and is very hardy. It attains about the size of the pear, but perhaps grows a little slower, which would have a tendency to produce fruitfulness. All which I give for simply what it may prove to be worth.

[The idea struck us as one likely to be very useful when we first noticed it, and we are glad that Mr. Hudeikoper is keeping the subject before the public.—ED.]

ROAD-MAKING ON PRIVATE ESTATES.

BY WALTER ELDER, PHILADELPHIA.

A PROPER system of road-making is not generally practiced among us, and it seems but imperfectly understood by those who direct their construction. The metal beds are dug out four and six inches deep, and large flat stones put in the bottom and broken stones or gravel on top; but the rocking and jerking of these large stones by travel, and splashing of mud in wet weather, cause them to be turned up and broken fine; thus making an extra expense before a solid road can be obtained. Every one who owns a place wants to get in and out of it with pleasure and ease, both to himself and beast; and these can only be secured by well-constructed roads. The most economical plan is to make them right at first, as the annoyance and cost of frequently repairing poorly-made roads far overgo the prudent outlay of constructing them properly at once.

Both the making of roads and planting of trees should precede the erection of the buildings. The rubbish from the buildings will all be needed for foot-paths before the place is finished. The location of the entrance and route of the road are of the first importance. Upon many estates it is best to have the entrance near to one corner of the place; and the road, if possible, should run along the high grounds. It should leave the highway on a direct

angle with it, and run straight for fifty feet; and if it is to be winding, it may bend outwards, if need be, so as to give a graceful sweep from that to the mansion.

Sudden bends and tortuous crooks should be avoided. Where the house has two fronts, the road may go round it; if not, the road may pass it and turn round a circle, oval or heart-shaped figure beyond it, or any other way as the grounds may be adapted for. On some places it will be best for the road to be straight. Where that is the case, it should be lined on both sides by trees with spreading heads, to form a long leafy arch, and a clump of trees should cover the end of the house from view, and the road should take a curve to one side and come suddenly in front of the mansion.

Those who have seen roads upon such a plan can tell of the beauty and grandeur of straight and well-shaded avenues,—on some small places semi-circular roads, entering at one gate and out at another, will be best.

After fully considering the above points, stake out the road eighteen or twenty feet broad; and after grading and levelling, mark out the metal bed from twelve to eighteen feet wide. Dig out the soil three inches deep, and put an inch of any of the following materials (where they can be got) in the bottom:—coal-dross, ashes and cinders from factories, refuse of foundries and other iron works, tan-bark, sand or gravel; and if the soil is a clay, two inches will be needed. To prevent weeds from growing up among the stones, and the upheaval of frosts, then put broken stones of a pound weight five inches thick, and stones half their size three inches above them, and finish off with two inches of stony gravel or finely-broken rotten rock. Next slope off the earthy sides from the metal bed to the edges of the road, and dig gutters six inches deep. If the ascent of the road is great, it will be best to pave the gutters. If the fall is slight, sod them and the sides of the metal bed. In filling up the metal bed, put each layer thickest in the middle to raise it, and make it convex to throw off the water.

Where there is a hollow in the road, and no way for the water to run off, make tile-drains from the gutters in upon the lawn thirty or fifty feet, and dig wells six feet deep and four feet wide, and fill them with stones to within a foot of the surface. Cover them with straw or shavings, and fill in the soil on top. These will generally keep the road dry. After the road is finished, go over it with a heavy two horse roller backward and forward upon the same place. After that, put heavy weights upon the roller, (say six men,) and go over the road double again, and after the two first heavy rains, double roll each time, and also every spring after heavy

frosts are over. That will make it solid, and it will not need repairs for many years. The travel over a newly-made road should be slow at first, so as not to displace the stones.

This road is intended for all travel; but a road for a private carriage avenue can be made narrower and lighter. Where water runs and marshes are to be crossed, arched bridges of mason-work, if the foundation is solid, are best, and the walls should be covered with ivy to prevent injurious effects of frosts. The ivy can be laced in the railings on top, and clothe them also. In swamps, branches of trees laid in the bottom prevent the earth, in filling up, from absorbing much moisture until it gets hard by travel. When its capillary attraction for water is much destroyed, the sloping sides of the embankments should at once be sodded to prevent washing by rains. It will be seen that all is grass but the metal bed; but it should be cut often, so that it will not seed and fill the stone-work with weeds. All roads or avenues upon private or public establishments should be shaded with trees. Those upon straight lines should also be in lines twenty to thirty feet apart, and upon curved lines. The trees may be from five to twenty feet from the edges of the road, according to their size and habit of growth. These trees are generally deciduous; but where the road is on a high and exposed place, evergreen trees are generally alternated with deciduous on the north sides for shelter.

Now, some inexperienced persons will think that trees will keep the road moist. The case is not so. If the trees are pruned at the bottom, the current of air will be greater than upon an open space, and will carry off the moisture faster than the sun could. Let any one ride a number of miles under a scorching sun, and then come under the shaded avenue, how grateful he and his horse will feel! Or ride along a bare road under a cutting frosty wind, and then enter his own avenue, sheltered with massive evergreen trees, and mark the pleasant change. But that is not all. What a delightful stroll for the healthy and the sick is the finely-shaded avenue at all hours of the day, with dry feet, to admire the beauty and diversity of foliage, and inhale the delightful fragrance of the trees, and view the open, sunny glades through them.

On the other hand, what a forlorn sight is a horse, or a couple of horses, with a carriage behind them, travelling along a narrow path through a large grass field without trees! Good roads and trees are indispensable for beauty, comfort and convenience. Make the former substantial at first, and plant plenty of the latter. Count not the first cost, but the gratification and saving of future expense.

EFFECTS OF THE WINTER AT MEADVILLE.

BY A. HUDEIKOPER, MEADVILLE, PA.

The winter has been very destructive on our peach trees, many of them being entirely destroyed.

Quince trees were frozen to the snow-line, and cherries so far affected as to produce no blossoms.

Apple orchards are bearing very moderately, — currants doing nothing, while strawberries will yield a better crop than usual. Last summer was a very cool one, and the wood of fruit trees did not ripen sufficiently to produce a good crop; and the same may account for a good deal of frozen shrubbery. Having laid down my vines as everybody ought to do, I shall have a good crop of grapes both out of doors and under glass if nothing unforeseen should prevent. Our agricultural prospects are good, and our farmers are patiently awaiting the better times about to come with the monetary distribution under our present national affairs, pretty sure to take place.

INDIGENOUS GRAPES.

BY WILLIAM A. WOODWARD, MORTONVILLE, ORANGE COUNTY, N. Y.

SINCE the public attention has been directed to this subject, many persons have informed me that desirable wild grapes are to be found in various localities about the mountains in this vicinity, and have promised to point them out when the fruit is formed. I propose to examine them carefully, make notes of each on the spot, and communicate the result of my observations for publication if you think it will interest your readers, hoping that some valuable new varieties may be found worthy of cultivation for wine-making and for the table. There are, no doubt, some valuable varieties of wild grapes that can be introduced to the public with little or no expense, and in much less time than other seedlings can be produced and tested by cultivation, while no efforts should be spared to increase the latter.

The qualities to be desired in a new grape which shall please the public and become a favorite are: thin skin, soft pulp, sweetness, juiciness, flavor and size; color is of less consequence, as I have never seen a fully ripe grape that was not beautiful. With many the color and bloom are exquisitely so; add to this hardness and early fruiting, and we have every desirable quality. Can such a grape be found? We are bound to believe so; with the facts before us, that very desirable native grapes have been brought into cultivation, and that seedlings from them (perhaps one in ten thousand) are improvements. Witness the Concord, Delaware, Isabella, Union Village, Catawba and Diana, all of them seedlings from native grapes. May we not suppose that

nature has produced seedlings equally as good, or even better, which we have overlooked, either from our prejudices against native varieties, or the difficulty of gathering the fruit, or while waiting for them to ripen, we find that the birds, more watchful than ourselves, and possessing a delicate taste in such matters, have appropriated the fruit, and perhaps planted the seed in some new locality. New varieties of trees and plants are thus propagated. The Red Cedar is abundant in these highlands, but grows along the old stone walls, forming long lines of trees with the appearance of having been planted by the hand of man. The berries are eagerly sought for by birds in the latter part of winter and early spring for food. It is said the seed will not germinate until it has passed through the stomach of a bird; they are thus planted at distances, which can be accounted for in no other way. Under a heavy stone wall and amidst rocks about a mile from my house, is a seedling cedar which would make the fortune of an English gardener; it is a beautiful half-drooping magnificent Red Cedar. I have often desired to remove it to my grounds, but despair of success. There are so-called Isabella Grapes under cultivation, many of which are inferior to the original. These are seedlings which have come up in Isabella vineyards, and have been disseminated as the true kinds. The tendency of seedlings is to go back to the original wild varieties, and seedling Isabellas are not to be trusted until fully tested. Grapes produce infinite varieties from seed. Most of the seedlings from American grapes are barren, producing only staminate flowers, while the European (Asiatic) grape always produces bearing vines from its seedlings. This distinguishing characteristic should not be lost sight of; it will enable us ultimately to distinguish one species from the other without the shadow of a doubt. For example, the contested question of the nativity of the Delaware will be settled beyond dispute upon the production of a single well authenticated Delaware seedling, having staminate flowers only, that is when a barren vine is produced from Delaware seed. Cultivators of seedlings are requested to observe and publish when the fact becomes known. The question of what number of American seedlings are barren, seems to be as yet unknown; judging from the wild vines of the mountains, I should say not over ten in a hundred even bear fruit, and perhaps not half that number. One acute observer thinks that not ten in one hundred are barren; while one writer states that probably one half are so. I have enquired of a cultivator near me who states that of forty-eight seedlings, only one bore fruit; and of another parcel of one hundred seedlings, not one; but some allowance must be made for time, for although

some grape seedlings will fruit in three years, others require six and even eight years before fruiting. The nativity may be hastened by engrafting and forcing under glass. Will cultivators please communicate their experience.

[Our correspondent's communication contains much food for useful thought; but on one point he is mistaken, and to prevent the error becoming widely disseminated, we call attention to it at once.


He refers to Dr. Ravenal's doctrine, that only grapes of the American species will produce imperfect flowers, and suggests that this test be applied to distinguish the native from the foreign breeds.

We have often been struck that a gentleman of Dr. Ravenal's scientific standing should have started such a theory, as it is well known that the petals of a flower and its stamens which are but transformed petals, are the most easily affected by external causes of any part of a plant,—and that they are so affected, changed and altered, is a fact of every day experience. A character to be worth any thing as a scientific distinction to mark a species, should be above variations through surrounding influences. Thus we see every day instances of flowers which have their stamens transformed into petals, and become what we call double flowers; sometimes they are transformed into green leaves or bracts, as in the Green Rose, or even into branches and leaves as frequently seen in the larch; and in hundreds of other ways we see under cultivation (another name for external influences) stamens, petals, and other parts of flowers varying,—sometimes parts becoming abortive, at others excessively developed. So when a plant is removed from one climate to the different conditions of another climate, the stamens and petals are as liable to be suppressed, excessively produced, or otherwise transformed, as if under cultivation. An instance of this is well afforded in the case of the strawberry. In Europe, in the moist regions bordering on perpetual snow, the Alpine varieties have perfect flowers; when removed to the drier climates of lower cultivated regions, pistillates and staminates are found amongst the seedlings. But the wild strawberry of lowland woods, (*Fragaria vesca*), and the American strawberry (*F. Virginica*) always there, as Dr. Lindley recently assures, produce perfect flowers in their seedlings. But here in our own climate the same species produce seedlings, indifferently as is well known, hermaphrodite, staminate and pistillate, without any one ever suggesting that any different species is characterized thereby. All this by way of reasoning the matter; but the best argument is that foreign grape's seedlings *do often* have imperfect flowers, when under hot and dry culture, as every gardener who has had occasion to dust the

stigmas of Cannon Hall Muscats with pollen of other varieties, when its own stamens have failed to develop perfectly, well knows. Showing then that there is no reason why the foreign grape should not produce barren flowers; and further, that they actually do produce them, we leave the balance of Mr. W.'s suggestions to speak for themselves.—Ed.]


GROWING VERBENAS.

BY A. F. G.

WHEN verbenas are planted out, instead of tying them up to sticks, as is the custom with many people, (ladies in particular), they should be trailed on the ground and kept in that position by pegging them down with small hooked sticks, or what is better still, pieces of the steel hoops such as are worn by the ladies, cut into lengths of six or eight inches long, and bent in the middle thus , putting both ends in the ground with the branch between them.

As they throw out fresh branches, keep them all pegged down until the ground allotted to them is covered. By so doing the hot sun is kept from drying the soil around the roots. The result is finer bloom and more of it. This is no new system, but one, I think, not generally known among amateurs. Ladies, save the pieces (of hoops) and try it.

Mr. Editor, I do not recollect ever seeing the above system in print; if you think it worthy of a corner in our *Monthly*, make use of it.

[Pegs for layering, of the shape described by our correspondent, can also be easily made by cutting green switches and dividing them into lengths of from four to six inches, bend them into the  shape and stick them in the ground.—Ed.]

FRUIT GROWERS' SOCIETY OF EASTERN PENNSYLVANIA.

SECOND ANNUAL REPORT ON STRAWBERRIES.

THE Committee for Philadelphia County, in offering their Second Annual Report, would recall to the attention of the Society the prefatory remarks of their former Report, and herewith present the result of their observations, during the present season, on several new varieties, some of which are quite valuable.

AMERICAN VARIETIES.

H.—Hermaphrodite. P.—Pistillate.

Albion. H. We have so named a large strawberry which we suppose to be a seedling of Wilson's Albany. The plant is a very strong grower, robust and perfectly hardy; leaves large, dark green and thick, and foot-stalks quite long; very productive. Fruit large to very large, nearly round, pure white,

with a rosy blush around the base; flesh white, not very firm, but juicy and of a high vinous flavor. Worthy of further attention. It somewhat resembles Lennig's White, but is higher flavored and distinct from it in foliage. The "Pine-apple," a seedling of Wilson's Albany, raised by P. R. Freas, Esq., of Germantown, is of similar character. We have learned of several very fine white seedlings of the Albany.

Athlete. H. A supposed native from Easton, Pa.; may prove to be Salter's (English) Seedling. Size large to very large; color bright scarlet; flesh firm, yet juicy; flavor sub-acid and pleasant; productive and good, but not first-rate.

Austin's Seedling. H. This plant is of very large size, the leaf-stalks and foliage very long, and the habit quite loose and straggling. Moderately productive; berry round, of medium to large size; color pale scarlet; seeds crimson, not prominent; flesh white and soft; flavor sub-acid and good.

Downer's Prolific. H. This new Western variety does not prove as productive the first season as many other kinds we have grown. The fruit is small to medium in size, and somewhat acid in flavor. It corresponds in other respects with the description published in the *Horticulturist*. The plants we tested, as also those of a friend who confirms our judgment of them, were grown in a strong clayey loam, in the same bed with the other varieties herein reported on. In a light, sandy loam it might do better. From present experience we can hardly rank it first-rate.

Bartlett. H. From very weak runners set last autumn, we obtained a small crop of berries of medium size, rich crimson color, moderately firm flesh, and very good flavor. It promises to be a good and productive sort, superior to Hovey's Seedling, which, we learn, is probably its parent.

Golden Seed. H. A seedling of Mr. Read, of Port Dalhousie, Canada West. This is a very vigorous and hardy plant, with rich and abundant foliage, and very productive. Fruit medium to large size, long conical form, rich crimson color, bright yellow seeds; flesh rather firm; flavor mild sub-acid; good, but not first-rate.

Jessie Read. H. Another of Mr. Read's seedlings. Plant not so vigorous or productive as the preceding. Berry of medium size, variable form, pale scarlet color; flesh soft, sub-acid and deficient in flavor. Not valuable.

Scarlet Magrate. P. Plant often of weak growth; berry of uniformly large size, roundish, somewhat flattened; color bright scarlet; flesh rather dry and mealy, of a mild, pleasant, but not rich flavor. If

well impregnated, it is productive after the first year.

EUROPEAN VARIETIES.

Ajax. H. A large English sort, rather tender and disposed to burn in summer. A moderate bearer. Berry large, bright scarlet; flavor vinous and good.

Crimson Queen. H. (Myatt's.) With good culture, in rich soil, promises to be moderately productive of fine, large fruit. Berry quite large, variable, often wedge-shaped; color bright crimson; flesh white, solid, juicy, of a high vinous or pine-apple flavor. If it should prove hardy and prolific, it will be a truly desirable sort.

Kitley's Goliath. H. The habit of this English variety is quite vigorous, and the foliage large and abundant. The berry is of the largest size, rich scarlet color, obtuse conical form; flesh rosy white, firm and solid, and of a high pine flavor. Valuable for its lateness.

La Reine. H. An excellent late Belgian variety. Plant robust, a strong grower and good bearer. Fruit very large, variable in form, often coxcombed, rosy scarlet color; seeds numerous, bright yellow and prominent; flesh white and melting; flavor good but not first-rate. Continues in bearing after most other sorts are gone.

Oscar. H. To this new English seedling we must accord the highest praise. The plant is readily distinguished from all other kinds by its low compact habit of growth, short foot-stalks, and round, dark-green and leathery foliage, which withstands our hottest suns without injury. The fruit is of large size, somewhat irregular form, and deep crimson color; flesh scarlet to the core, which is white and remarkably solid, yet melting and juicy. In flavor it is hardly surpassed by any variety we are acquainted with. If it should prove sufficiently productive, we think it the best acquisition yet made, and deserving the attention both of amateurs and gardeners.

Wizard of the North. H. The public attention has been much excited concerning this new Scottish variety by the illustration published in the *Gardeners' Monthly*, July, 1860. It certainly has not reached, with us, the colossal dimensions of the plate, which must, we think, have been attained only by the highest special culture in the peculiar soil and humid climate of its native country. Yet it proves to be a remarkably prolific plant and worthy of further attention. Young runners planted last autumn produced from thirty to one hundred and thirty buds, and from six up to as many as forty-one perfect berries per plant, very uniform in size, averaging as large as the best plants of Wilson's Albany, which it considerably resembles in the color and shape of

the berry, though more variable in form. The flesh, which is crimson red, is somewhat softer than that of the Albany, but quite as juicy and rather less acid and of better though not high flavor. In a rich, friable loam, with a mixture of good leaf mould, and the small berries well thinned out, the fruit would doubtless attain a very large size.

Wonderful. H. Plant vigorous and hardy. Berry very long, conical, often wedge-shaped; bright scarlet color; large crimson seeds, quite prominent; flesh white and very firm; flavor vinous and good.

All of the European varieties above described, except Kitley's Goliath and La Reine, were young runners planted last fall, as were also the Bartlett, Athlete, Austin's Seedling and Downer's Prolific; their productiveness cannot be fully known until next year.

RETROSPECTIVE NOTES.

Among the kinds described in our last year's report a few deserve further mention:

Chilian Pyramidal. H. Has proved almost, if not quite equal in productiveness to Wilson's Albany, which it certainly surpasses in flavor. The plant is one of the most vigorous growers known, and we deem it worthy a place in every garden.

Fillmore. P. A very free bearer; fruit uniformly large, round and handsome, but this year is rather soft and not high-flavored; yet its attractive appearance and productiveness will render it quite a favorite for private gardens.

Ladies Pine. P. Takes the same rank among strawberries as the Seckel among pears. It is a moderate bearer, and the fruit is of small size, but unsurpassed in honied sweetness and high musky flavor.

Peabody. H. As productive this, the fourth year of bearing, as hitherto. The fruit is sweet, and by many thought unrivalled, but is not sufficiently juicy and vinous for some tastes.

Delices d'Automne. H. Proves very tender in the sun and difficult to keep alive. Under glass, we are informed, it bears for a long season; fruit, of the highest flavor.

Triomphe de Gand. H. Fully maintains last year's description, and increases in productiveness and the size of the fruit. Should be in every collection, however small.

Vicomtesse Hericart de Thury. This year's experience confirms the high opinion expressed in our former report; it will not average so large in size as the Triomphe de Gand, nor is the plant quite as productive, but surpasses it in high flavor and solidity of flesh. A most desirable variety.

We would, in conclusion, urge the importance of good winter protection in the culture of the strawberry; a heavy coating of straw will well repay its

cost in the assured health and productiveness of the vines, and the size and flavor of the fruit.

Another point we deem of great importance—the cultivation of the plants in separate stools, and the pinching off of all runners—which will insure the largest crop, largest size of fruit, and the greatest longevity and health of vine. They should also be well mulched during the bearing season, indeed throughout the year, except during cultivation, with hay, tan-bark, or straw, preferably the latter, which is cleanly and cool and allows no weeds or fungus growth to the injury of the plants. The young vines should be planted in rows, two-and-a-half feet equidistant, and from ten to fifteen inches in the row. The soil should be well forked up or horse-harrowed in spring and again at midsummer.

As a fertilizer, we have observed excellent effects from the application, in the spring, of a mixture of bone-dust, salt and lime, and wood-ashes. Heavy dressings of rank stable or other ammoniacal manures often result in a large growth of foliage and a paucity of fruit.

If the soil, prior to planting the vines, be dug or forked up two or three times, at intervals of a week, the young plants will make a vigorous start and in their rapid growth well repay the extra labor bestowed. Vines four years planted and treated as above stated, have borne, with us, the present season, their maximum crop.

J. E. MITCHELL,
ROBERT CORNELIUS,
A. W. HARRISON.

Philadelphia, July, 1861.

[Last year, we took the opportunity to observe that the report we then had the privilege of publishing, had not been before the society, and was therefore not viewed as an official document, but rather as a contribution to our journal by our respected friends. The above valuable document has, however, been submitted to and approved by the appropriate executive committee, and may, therefore, be received as an official paper.—ED.]

JAPAN WAX TREE has proved hardy in this country. It has also been found to retain the fine color Mr. Fortune refers to in the following:

On the hill sides I observed the Japan Wax tree (*Rhus succedaneum*) cultivated extensively. It occupies the same position on these hills as the Chinese Tallow tree (*Stillingia sebifera*) does in Chekiang. It grows to about the same size, and, curiously enough, it produces the same effect upon the autumnal landscape by its leaves changing from green into a deep blood-red color as they ripen before falling off.

GARDEN DECORATIONS.

BY D.

[WE have often promised that we would incorporate, as occasion offered, many interesting articles contributed by our kind friends for our specimen number into our regular volumes, and have already so republished some of them for such preservation. The following is another one entirely too good to be lost:]

In compliance with your request, I send you a few simple designs, of easy execution, of rustic work garden decorations, which I hope will soon take the place of the senseless, ungraceful and expensive ornaments which too often disgrace the suburban retreats of many of our retired cockneys.

Fig. 1.

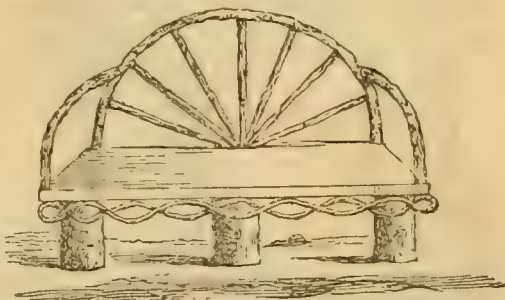


Fig. 1 is a simple design for a garden-seat, which requires but little explanation. It can be placed on three sections of the trunk of a tree, as shown in the design, or on four legs. Hickory or oak hoop poles or saplings are the best materials for the back and arms, and the seat should be of inch board, planed, and painted to match the color of the other wood.

Fig. 2.

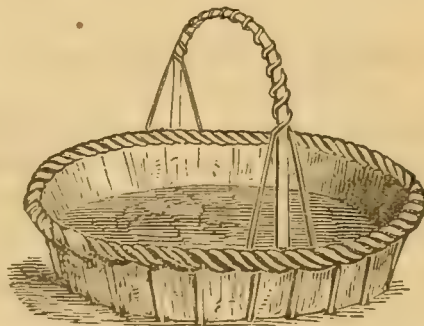


Fig. 2 is a design for a flower-bed or basket. Procure an inch board about six inches wide, and saw it up into lengths of about two feet six inches. Then dig a trench about a foot deep in the ground, of an oval or any other shape that may be desired.

Place these pieces of board upright, edgewise, and slanting outwards in the trench, and then fill in the earth, ramming it well to keep them firm. Nail a good strong wood or iron hoop around the top, to keep it from separating, and finish by putting around it a rope of twisted grape-vine. The handle is formed of a hoop or sapling entwined with grape-vine, as shown in the engraving. Cover the outside of the boards with rough bark, and fill the basket to the brim with good soil and plant your flowers in it, taking care to have a few twining plants to grow up over the handle.

Fig. 3.



Fig. 3 is a design for a summer-house in the Grecian style. The roof is formed of rough boards, and the gables or pediment and cornice are covered with bark. The roof is supported by pillars formed of the trunks of trees with the bark on. A house built in this way, embowered in shade and overgrown with ivy or creepers, produces a charming effect.

ALL ABOUT STRAWBERRIES (AGAIN.)

BY SUBSCRIBER, BALTIMORE, MD.

SOMETIME in the month of December last, I sent you, Mr. Editor, an article on the subject of a test, which was then in progress, of several of the newest and finest strawberries, both foreign and domestic. This article, you were kind enough to publish in the *Gardener's Monthly* of the same month in which the article was sent. You very kindly and properly warned me not to repose too much confidence in the recommendations of untried varieties lest I should discover at the fruiting season that I had been deceived.

It gives me great pleasure to say, that the result of a very fair and unceasingly rigid test has developed the fact, that I was *not* deceived in the

quality and size of any one or all of the varieties which I spoke of favorably in my communication to you, with one exception, and that was in the test of what has been represented to be the largest and best of all the strawberries known. I mean the *Wizard of the North*. Strange as it may appear, however, I do not entirely condemn this variety so celebrated for its almost incredible size of $9\frac{1}{2}$ inches in circumference.

I am only an humble, inexperienced amateur, and it would sound very like presumption if I were to attempt to inflict destruction on a berry so celebrated as the "Wizard." I only say, and say it positively, however, that although I am but an amateur of a few years existence, my efforts in the careful and attentive cultivation of several other varieties of great notoriety were blessed with signal success.

And first, as to the *Austin*: I gathered fruit of this variety from plants two years old, which measured *five inches in circumference*. The fruit was beautiful in form and color, and of delicious flavor, and the plant is of a robust habit. A friend from New York has informed me by letter to-day, that the *Austin* on exhibition in his office at the time he wrote, was measured by himself, and was five and seven-eighths inches in circumference. A friend at his side, at the time of measurement, asserted that he *knew* it to have been six inches when first gathered from the vines. I have mentioned the *Austin* first, only because some one variety must necessarily be mentioned first. It is, indeed, a noble berry, and is said to have been the largest fruit exhibited in New York.

Next, the *Triomphe de Gand*. Of this variety nothing more need be said but that it commends itself to *everyone* who is at all capable of appreciating splendid fruit, as distinctly among the very highest as to excellence in every respect.

Next, *Rivers' Eliza Seedling*. I had great success with this berry, and its size was very great and its flavor most delicious.

Next, the *Vicomtesse Hericart de Thury* falls very little, if at all, behind the *Eliza*.

Next, *Trollope's Victoria*, and I may (to save time and space in your valuable journal) at once mention all which passed the ordeal safely and most successfully.

Then there was *Feast's Fillmore*; then, side by side with its parent the *Fillmore* appeared seedling *General Lovell*; this being the *first* season of the General's appearance on any stage; and, indeed, he did not disgrace the stage nor his owner. (I will tell you who the owner is one of these days.) The General *Lovell* measured *four and three-fourth inches in circumference*, and that, too, when only two years old; flesh very firm; form and color very fine; taste, very sweet,

with just a sufficient amount of acid to make its flavor as fine as any berry I ever tasted. To this testimony in behalf of these varieties, I can add that of a distinguished horticulturist in this city, who, when he entered my yard, exclaimed emphatically and with admiration in his tone and manner, "I have never seen such a sight as this since I have been in America." A native of Scotland he is.

Then there was *Bayne's Favorite*. Truly a great favorite in every respect. And "Excellente," not disgracing its name; very large and very fine.

Then *Stansbury Seedling*. Then *Hooker* and others; but I must now stop. Truly, I enjoyed myself in this experimental test, and was astonished at the perfection to which the strawberry roay, with God's blessing on the effort, he made to arrive, by constant care and cultivation. I was enabled to gather from my limited stock of plants in a *very small* back yard, a sufficient supply for my family for nine days.

I fully concur with my worthy friend, Mr. J. S., of Washington City, in saying, as he said to me, by letter, that it is strange that the people should be content to buy the poor, trifling little berries which are sold in our markets, when they can purchase from the attentive and skilful horticulturist or amateur such splendid fruit as can be produced, if due encouragement were given to those who are disposed to produce it, if properly remunerated.

I respectfully ask an insertion of this crude article in your next number if you deem it worthy of it.

[We think almost all seedlings are "first-rate" for the first season or so after raising. Unless it be better in some marked respect than others already known, we would not preserve it. It takes time to prove the stability of good characters in seedlings. —ED.]

INJURIOUS INSECTS.

BY S. S. RATHVON.

THE GRAPE-VINE BEETLE. (*Gastrophysa*.)

At the meeting of this Association, some grape-leaves containing insect larva were submitted to my inspection, upon the true nature of which I was then not prepared to pronounce; for their appearance in that connection was comparatively a new thing to me, although I gave it as my opinion that they were the larva of a *coleopterous* insect; and a member of the Association subsequently bringing me a small "steel-blue beetle" from

the same vine, which, he alleged, was eating the tender buds or ends of them, I at once concluded

that this insect might have been the parent of the larva in question, and stated such as my opinion, without intending that that opinion was to be regarded as authoritative.

Since that time, however, I have made some practical observations upon the insect in question; for, on my return home, I not only brought specimens of the larva with me, but I found that they were tolerably abundant upon some grape-vines in the city of Lancaster, and also that a number of them had been sent from the vicinity of Rochester, New York, to my friend, Mr. Jacob Stauffer, who exhibited them to me. These insects appear to have had a wide range the present season, and were very distinctive in various localities in several of the States, if, indeed, they were not to be found throughout our whole country.

Both Dr. Harris and Dr. Fitch refer to the "little steel-blue beetle" in their works, as being destructive to the tender buds of the grape-vine "from early spring until the end of May;" describing them precisely under the same circumstances as they were found at West Chester on the 13th of June last; but neither of those eminent entomologists seem to have been acquainted with the larva of the insect, and Dr. Harris, in his work, acknowledges as much. Those larva which I obtained at West Chester and Lancaster produced the same beetle, and I am convinced that those from New York State are precisely the same. These insects produce two broods in one year, the last brood hibernating under stones and the bark of trees, or in the ground or any other suitable place in which they can hide themselves, during the winter season. When approached in the perfect beetle state, they have a habit of letting go and falling to the earth and hiding themselves, after the manner of their relatives, the "cucumber beetle" and the curculio, as well as some other species more nearly allied to them. They, however, must not be confounded with two closely-allied species that feed upon the common sour dock (*Rumex crispus*, Lin.), and which resemble them very much in color, size, and general habits, excepting their transformations and the appearance of their larva. The dock beetle undergoes its transformations above ground on the leaf where its larva feeds, similar to that of the *coccinellans*; whereas the larva of the grape-vine steel beetle burrows into the ground and undergoes its transformation there.

Gastrophysa cerulicarpennis. Fig. 1. Length, three-twentieths of an inch, female something larger; head, wing-covers, and body, a dark blue; thorax and legs, a dull orange red; upper side of the abdomen, also a dull orange red, but this is not seen (being covered with the wings), except in the females, after impregnation and before they have laid their



eggs, when the abdomen is swelled out like a large orange-colored ball; antennæ and feet, black.

Gastrophysa cyanea, Mels. Fig. 2. Length, the same as in the foregoing species; color, various shades, from a dark steel-blue to a bright metallic green; head, legs and underneath, dark blue; antennæ and feet, black; the swollen abdomen of the female in this species is of a dusky or blackish color, showing whitish segmental divisions. Fig. 3 is the larva, which is about one-quarter of an inch or more in length, and of a dull velvety black color; head, shining black; the three last segments are of a dirty whitish color beneath, and the whole body is lighter beneath than it is above; feet, black, and six in number; the whole body, above and beneath, is covered with regularly-arranged pyramidal tubercles. Fig. 4 is the pupa, which is of a dull white or yellowish-white color, and is scarcely as long as the larva, distinctly showing the antennæ, the feet, and the wings of the future insect. Fig. 5 is the antennæ.

Mr. Say remarks that "this is a beautiful and rare species," in speaking of the *cæruleipennis*, "an inhabitant of the Northwest Territory." I found them so abundant in the month of July of the present year, that I really think I might have collected a half-pint of them, and the *cyanea*, in an enclosure of fifteen yards square. They had entirely destroyed the leaves of the dock growing there (*Rumex crispus*), after which they attacked other wild plants, leaving nothing remaining but the nervuses of the leaves and the seed-stems. The larva feeds upon the same plant, and also undergoes its transformations there, similar to the coccinellans, the pupa being only covered with the external integument of the larva, and fastened by the caudal segment. The former species is supposed to have been introduced into this country from abroad, and, to all appearance, seems to be identical with *Chrysomela Polygoni* of Europe. I have a foreign specimen in my cabinet, and, on a superficial comparison, I can distinguish no difference between them.

After having devoured all the dock, they next attacked a species of "smart-weed" (*Polygonum aviculare*), which they bid fair of finishing in a short time. It is upon a species of this weed that the insect is found in Europe, but our insect prefers the dock, according to my observations of the past ten years. In the absence of either of either or both of these weeds, it would, doubtless, attack other allied species of vegetation, and might possibly become a great scourge.

BOUVARDIA HUMBERTI.—New white, with long tube, and flower two inches in diameter.

MANAGEMENT OF JUNIPERS.

BY A GARDENER, NEAR BROOKLYN, N. Y.

WHEREVER I have seen the juniper grown, I have noticed many ugly contrivances for keeping them together; for when suffered to grow in the usual way, they fall apart in heavy rains, and particularly in snow-storms, leaving a very ragged and unsightly appearance. Sometimes hoops are used, and wire, but usually they are tied together by rope and twine, at the best, making but poor specimens.

Some years ago I thought to remedy this by allowing only one leader to grow up, and having several pretty large and troublesome specimens with the usual trouble of many dividing leaders. I cut away all but one, and severely pruned in the side branches of the remaining one. They pushed out a new growth the next spring, and are now beautiful specimens. Since then I carefully cut out all but one leader every season in these arborescences and similar evergreens, besides taking out all very strong side-shoots, and now have no trouble in even the heaviest storms. Thinking the hint might be useful to others, I offer it to you for the *Monthly*.

THE CISSUS DISCOLOR.

BY J. M.

THIS beautiful stove climber is an ornament that no one should be without, as its splendid foliage of dark purple and silver above, and still darker purple on the under side, cannot, I think, be excelled in beauty by any other plant, even amongst the begonia class, with its many varieties of handsome leaves, there is no one that I prefer to this plant. It is employed very usefully in suspending in baskets, in other cases for covering trellis work, or even when trailing along on the stage it looks well; but planted in a pot and trained to a trellis (such as appeared in the July number of the *Monthly*) would be as good a way as any for it. I have found it to grow well in soil composed of turfy loam, a little rotted horse manure and river sand, sifted fine. The pot should have plenty of drainage to have the plant to do well; this last seems to be very essential to it.

Its propagation is best performed about July, by layering when the young wood is about six inches or so in length. It roots readily in two or three weeks, and should then be separated from the parent plant,—potted, and put in a cool shady place for a few days. A small 3-inch pot of sand is the best thing to layer it in; as soon as rooted, pot into the soil as recommended above. It can also be raised from cuttings taken off at the same time, and placed under a bell glass; they should be about two inches in length, taken from the young wood. By this mode they are longer rooting than by the former,

and it is not so good on the whole, although usually ranked as a stove plant, it will keep in a warm greenhouse through the winter, if kept rather dry, and in summer it will thrive in a shaded place out of doors, with no more care than greenhouse plants usually require.

HOW TO RAISE THE SEE OF THE FEATHER GRASS.

BY W., PHILADELPHIA.

I FIND amongst my acquaintances some trouble is experienced in raising seed from the Feather Grass, (*Stipa pennata*.) I was for many years myself unable to succeed with them, and as others of your readers may have the same trouble with this highly ornamental grass, I send you the following memorandum of a way by which I have been perfectly successful. I have tried it several times, and every seed germinates in a few weeks :

I get some muck soil, and when placed in the seed-pots, pour in water till it is like mush, into which I stir the seeds. I keep it afterwards well saturated with water, and, indeed, to guard against any possible dryness, keep saucers of water under.

The ease with which they grow under this treatment convinces me that the usual way of sowing in the border is too dry a plan for their desires.

RHODODENDRONS.

BY ADOLPH MIELLEZ, FLUSHING, N. Y.

Will you allow me to pass a few remarks on the Rhododendrons? That most excellent tribe of plants, which, for its grand beauty is so universally admired in Europe; and though there are a good many valuable varieties to be found in this country, there are nevertheless a great many amateurs, who, seeing nothing but common lilac and purple flowers, get tired of them, and I think would be much delighted if they knew how easily their groups could be converted into colors of the most brilliant scarlet, carmine or crimson.

The mode I suggest is by way of grafting. Good, strong and thrifty plants may be taken from the ground, grafted, and put into a small pit or house without any difficulty. They, under good management, will easily take, and can be put out-doors again after a month or six weeks, where they, if fairly treated, will very soon resume their former close growth and habit which render them so conspicuous amongst our ornamental shrubs, (it, of course, being understood that there be more than one scion put to the plant, in fact one on every branch.) The best mode of grafting is "saddle-grafting," they being not so much subject to be blown off by the wind.

The proper time for operation will be (in summer,) after the wood is fairly ripened, and (in winter)

about February. High-colored sorts that are hardy, of course, should be chosen for scions, and thrifty, well-rooted plants be taken to be operated upon. If you think it worth the while, I will give some particulars on the same subject in your next; also, on hybridizing this class of plants.

[Should be very glad to receive the articles. The whole management of the Rhododendron in the open air is particularly worthy of attention. They will not thrive in this or any other country under the "lazy" and "ignorant system" adopted in most of our systems of culture, but when well managed are the glory of English gardeners and deserve to be of ours.—ED.]

THE DESCRIPTIONS OF FLOWERS, when associated with the names they bear, often suggest the ludicrous. In looking over the lists of our florists, for instance, we find "Lord Derby" described as having an "orange crimson mouth;" "Lord Raglan" has "a fine eye, but rather loose habits;" "Earl of Shaftesbury, a fine flower," but "shows the whites of the eyes;" "Princess Matilda" has "a rosy blush, and is very free;" "Mrs. Church has great constancy, and may be depended on;" and so on through the catalogue.

TREE IVY.—Some years ago we saw in the garden of John Jay Smith, Esq., of Germantown, a pretty specimen of this nice work of floral art. The following, from the *Cottage Gardener*, reminds us of the way to make them :

Procure some stout flowering branches,—fix on a part of the branch as near the bottom as you can, to give you the more length of the trunk after it is rooted; then to cause it to root, cut off a ring of two inches in width of the bark, all but about the width of the fourth of an inch, and leave that narrow slip of bark to carry on the circulation; then get some sheets of gutta percha, paper, or parchment, and form each of them into the shape in which grocers make their soft sugar parcels—the pointed end tie tightly a little below the ringed part, and let the open part of your paper be nine or ten inches wide, and deep enough to hold as much good, rich, sandy loam as would fill a No. 24-pot, pack the soil tightly around the ringed part, but not very tight above it, water it well, and keep it well watered till next October, when it will be as full of roots as possible: and then cut it off from the old tree, and plant it carefully in a sheltered place, and see it is well staked. A layer of moss on the top of the soil in the gutta percha paper, and a little of the moss all around the wound will hasten the process of rooting. If the stem of ivy is as thick as some we know, one would need half a bushel of mould and two years to root it properly.

The Gardener's Monthly.

PHILADELPHIA, AUGUST 1, 1861.

✂ All Communications for the Editor should be addressed, "THOMAS MEERAN, GOTHIC TOWN, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

✂ Persons sending two new Subscribers for 1861 in addition to their own, with \$3.00 can receive a copy of our First Volume, (1859) free. All persons who have paid their subscriptions for 1861 by sending two new Subscribers and \$2.00 can receive a copy of the same.

PUBLIC GARDENS--THE PATENT OFFICE.

NOTWITHSTANDING the immense influence for good which horticultural and agricultural pursuits exercise over a whole community, no one has ever expected or desired to see in this country such large private establishments as Europe boasts of. However much it might gratify our professional pride as gardeners to have such noble gardens to manage, we well know that they can in very few instances be maintained as they are, only by an hereditary system of property ownership—a system by which the rich become richer and the poor poorer, at every successive generation; and our love of the business in its regal states of existence, cheerfully gives place to a pride as citizens, in the general material prosperity and happiness which our national system affords.

But that we might not altogether be deprived of these advantages, it has been a fondly cherished hope with our leading minds, that agriculture and horticulture should assume a more national shape than Europe can boast of; and the most sanguine amongst us have looked forward to a no distant date when all the stages of our Government, municipal, state, and general, should sustain its public park, garden, and horticultural establishment for the use and instruction of the people.

With the establishment of the agricultural division of the Patent Office, and the inauguration of a few public squares and parks in some of our larger cities, it did seem that the good time was coming, and we all prepared to rejoice at the near prospect of our dreams.

Alas! they have proved but dreams. From the Patent Office down to the hundred feet public squares, they have turned out to be mere jobs to reward partizans, and millions of dollars have been spent, to little other end. In most instances this has been the case, and very probably in all.

In our City of Philadelphia, we had two magnificent Parks projected, the Hunting Park and the Fairmount Park. They were all started on correct

principles. The plans were put up to public competition, and in the first-named case, Mr. W. Saunders' plan was selected as the best, and in the last, Mr. J. C. Sidney's, and the public applauded, that for once justice had been done. Merit had triumphed, and party politics, for the time, laid aside. But now comes the curious part of the business. Both of these gentlemen drew up carefully prepared estimates of the cost of their several plans, and we believe both of them offered to contract for the whole work at the estimates made out. One of them certainly did, for his report happens to be now before us. Immediate payment would be no excuse, as the bonds of the city extending over a number of years would be accepted in settlement. Why are not such offers accepted? Simply because they bring neither votes nor patronage to whatever party may be in power. A few weeks before "election," crowds of voters are employed who do little for their pay but what they are employed for, namely, vote; and the little they do is neglected after the "election," and has to be done over again when the next voting time comes around. In the cases we have named, with the exception of the designers, Mr. Saunders and Mr. Sidney, we doubt whether any one person skilled in horticulture has been employed in the works during the years that have elapsed since their commencement; and these gentlemen are probably retained nominally at the head of the works to make them appear, in the eyes of the public, no political affairs. The estimates originally made out, judging from personal observation, are nearly or quite reached, or if not, exceeding good management must have been exercised by both Mr. Saunders and Mr. Sidney to get so much done for the money, and the "Parks," instead of being near completed, are still little more than wildernesses. No one can believe that they will ever be finished for less than double, as the system goes, and they bid fair to be the hospital for political cripples for many years yet to come.

If we turn from Philadelphia to Washington, the same deplorable facts present themselves. The agricultural division of the Patent office has proved a perfect Augean stable of corruption and shameless ignorance, that ought to lead the first originator of the idea to the same fate as the originator of the guillotine, and his heart break at the perversion of his patriotic intentions. Many a Hercules has attempted the cleaning process, but has signally failed. Turned out by one hole the offensive matter enters as fast by another, and the labor is lost.

Near the close of Mr. Buchanan's administration, the force of public opinion caused the removal of the leading incompetent, the great D. J. B. of the Patent Office reports, and it was fondly hoped that some millions would be saved to the country by the

cessation of imports "foreign wine-grapes," "Tea Plants," "Christ's Thorn seed," "Cork Trees," "Strap-leaved Turnips," and scores of other items, useless rubbish, which have not, nor ever will be of one cent's worth of benefit to this country for all the outlay. Well, this distinguished Bee (D. J. B.) is again taken up to send abroad to gather more honey for us of the same sort. It is not his fault, but that of the system. It is said that he worked hard to get the present Commissioner of Patents into office; why should he not have his reward? Our postmasters and police, even down to the most petty officer, mostly earn their places before they get them. What they do after their appointment should be considered gratuitous on their part, and we should be thankful for any favors they may do us, in the shape of what politeness terms their "duties"! Certainly the Patent Office officials deserve no less, and we should be satisfied.

Seriously we think it time that a determined effort should be made to correct these abuses. The interests of agriculture and horticulture demand that they should no longer be thus trifled with. When we see some effort made likely to be successful, we shall again resume our advocacy of public establishments. Until then our pen will be better employed in the development of the usual details of private practice.

THE SEEDLING NUISANCE.

Now that the season of pomological gatherings is approaching, we warn our friends against the unnecessary introduction of "new seedlings."

Many fruit raisers seem to have well studied Gulliver, and to have imbibed the maxim of one of his heroes, that "he who makes two blades of grass to grow where only one grew before, is a human benefactor." But our friends seem to forget that this must have applied to the kingdom of Brobdingnag, and that the multiplication of fruit "blades" in the shape of seedlings with Lilliputian qualities, is the least desirable of all our wants.

When we look over our fruit catalogues of the few past years, and note the magnitude of the "seedling list" now discarded as worthless, it is painful to reflect on how much money, time and labor have been thrown away on them. It is not that we have been swindled, or that in most cases there has been any design to inflict worthless varieties on the public, but the evil arises from the public not knowing the characteristics of a good fruit, or the raiser's not knowing how much an accidental and local circumstance has to do with a local reputation.

The foundation of a good character in a fruit should be a good, hardy, vigorous constitution—one that will resist our heats and drouths, and come out scathless from our severe wintry ordeals. Entirely too much

prominence has been given to nice shades of flavor,—shades frequently so delicate that a vote of a hundred palates would scarce indicate a majority of one in favor of any two favorites.

A fruit is sent to the *Gardener's Monthly*, or to a committee of some horticultural society; the flavor may be excellent, and we or the committee be honestly bound to say so; but as it is the only important quality that is up for judgment, it may have many other defects that would render it worthless notwithstanding, and we are desirous that the public should receive the opinions in such cases given at only their exact worth. On the other hand, a really valuable fruit is often rejected or has to fight its way through legions of enemies, merely because the first decisions of good judges were that it was "not of good flavor." The cases of the Concord Grape, and Albany Seedling Strawberry are in point. Inferior in mere flavor as they may be conceded to be, they are the type of all that is valuable in the classes that claim them, and the models on which we may expect future improvements.

Nothing but experimental gardens in two or three sections of the Union will ever save to the country the immense sums now squandered on inferior varieties. It is, of course, out of the question to urge this matter now, but we hope our readers will bear it in mind when peace and prosperity return. In the mean time, our friends will understand that when we or others pronounce a fruit "as the best flavored we have tasted this season," it may be very far from being a valuable variety, and that there are a great many other points to be considered before we venture to encourage another risk of a "seedling nuisance."

HORTICULTURE IN CALIFORNIA.

"COMPARISONS are odious," says Mrs. Malaprop; but sometimes Mrs. Partington's understanding that they are "odorous," is the correct one, and they shed a balmy influence for good on all who may come within the charmed circle of the magic fragrance.

Two papers come to hand by the same mail, one from California, the other from England, and afford a striking comparison of the *status* of horticultural art in these comparative antipodes.

Our English paper gives an account of a collection of variegated plants on exhibition in London, sent for that purpose by Mr. Fortune from Japan! and which arrived there the day before the exhibition, in first-rate order, in a Wardian case. Certainly it was a feat worth exulting over, not only as being successful beyond record, but as showing how very far horticultural skill has advanced there.

And now, what of California? The account

stated that an association had been formed with a very heavy capital, the shares from \$25 to \$50 each; the object being to import specimens of the best fruits of Europe to California. The principal part of the capital it was proposed to spend in the employment of "competent hands," who were to be "sent out to the various European countries" to superintend the packing up the plants in such a manner that "they could have daily water, air, light and attendance" on the way. This sounded so precisely like one of our "Patent Office schemes," that it was with difficulty we could bring ourselves to believe it to be a plan emanating from intelligent gentlemen. They have certainly never heard of Wardian cases, and are full fifty years behind the times.

It is a source of profound regret to see such energy and good intentions so expensively and uselessly employed. Nothing shows more clearly the national value of a study of horticulture, and the immense importance of its pursuit in an industrial point of view. No greater mistake can be made than to consider it a mere lady's accomplishment, like zephyr or worsted work.

"Horticulture," says Dr. Lindley, in a recent address to Prince Albert, as President of the London Horticultural Society, "Horticulture, Sir, is the parent of Agriculture. It determines, on a small scale, the value of the principles on which an extended cultivation of the soil depends. It is associated with our food, our wealth, and many of our social enjoyments." How much more is this applicable to our country, which is so peculiarly agricultural, than to England; and how well does the California example of ill-directed energy show the want of it.

GRAPES.

Most horticulturists have heard of the grapes of Fox Meadow gardens. We have repeatedly said, in the discussion of the grape subject, that facts and figures on the merits of the differing systems were what we wanted, and here we have in black and white, a weighty argument in favor of the Fox Meadow system, which, after all, is but the old spur system. The "weighty argument" consists of six bunches, weighing, collectively, seventeen pounds, two ounces, expressed in "black" Hamburg, and "white" Muscats, in all the various bearings of which, color, flavor, form, &c., we were compelled to admit the "reasoning most cogent, clear and logical;" even the leaves which accompanied the fruit measured twelve inches by eighteen, and were models of healthy luxuriance.

In a "private" note which Mr. Ellis sends with the fruit, are some interesting facts, which we take the liberty of extracting, assured that Mr. Ellis will not object to the publication:

"I forward you a sample so that you could be able to 'record' something on our *old spur* system of vine growing. Six years ago, I planted a house, three hundred feet long, with vines two feet apart, intending to cut down each alternate vine as it was fruited; (you will here bear in mind this was an *early forcing house*.) The following season, I worked part of the house on this plan of cutting down, (which I had seen twenty years ago performed by Mr. Seammell, nurseryman, Bath, England,) to first see how it would answer, but I found that the cutting down caused the vines to push much later from their base than those which were for fruiting; some a month and others six weeks later, and that in their breaking together there was no dependence; and that if I had continued the system for two or three years, my *early forcing-house*, at the end of that time would have naturally grown into a cold house, so I had to drop it. Well, sir, this result caused me to spur-prune these vines instead of cutting them down, as before stated, and to sum up, to-day, on vine growing, my experience leads me to believe that vines planted four feet apart are capable of bearing *double the quantity* of much better fruit than when planted at two feet apart without any regard to any one's system of pruning or growing."

It has been stated somewhere that Mr. Ellis had found his vines "declining" under the old spur-pruning system. Mr. E. states that he had noticed a slight falling off in crop on a few vines, but so far from believing that it was caused by the system of pruning or the necessity of adopting another one, set about to remedy it in his own way; and if the samples sent prove any thing, it is certainly some "other thing" than a "decline."

In due time, no doubt, "the other side" will furnish similar "arguments," when we shall have much pleasure in duly "weighing" them also.

ENTOMOLOGICAL ARTICLES.

WE are indebted to the Publication Committee of the Eastern Pennsylvania Fruit-Growers' Society, through Mr. Gustavus Heins, the attentive Secretary of the Association, for the highly interesting article on the Grape-vine Beetle in another column. We have several other articles on destructive insects, also from the pen of Mr. Rathvon, which will appear in forthcoming numbers.

TRAVELLING AGENT.

OUR neighbor, Mr. James Gleason, in connection with his business of laying-out grounds and execution of ground work generally, makes a trip to the East and Canada, and has kindly consented to act as an agent of the *Gardener's Monthly* during the

tour. The publisher will be obliged to the friends of the journal who may place him in the way of being most successful in obtaining new subscribers.

LARGE NURSERY ESTABLISHMENT FOR SALE.

In another column appears an advertisement of Messrs. G. H. White & Co.'s Nurseries at Coldwater, Michigan. A personal friend who has recently returned from a business tour in that section, informs us that he spent a day very delightfully over the grounds, which he spoke very highly of, as well as of their location. We allude to the subject here because it is the first instance we have heard of any of our large nurseries getting frightened at the crisis; a rather surprising fact when we know how many other businesses have failed, and how nurserymen have suffered by debts withheld. We have no doubt Messrs. White will soon find a successor, and they themselves eventually regret their change. It is at least our impression that the nursery interest will be one of the first to recover from the general depression, for it is an "ill wind that blows no one any good," and they to whom it blows want the luxuries of horticulture.

Scraps and Queries.

☞ Communications for this department must reach the Editor on or before the 10th of the month.

☞ The Editor cannot answer letters for this department privately.

ADVERTISEMENTS—J. B. GOOD. We hoped our last would close this discussion, but two parties referred to seem to have a right to a postscript. Mr. Kohly writes that he may have been mistaken in the date of his letter, as he certainly was by the postmark; but he now sends us facts and documents proving clearly that he did send money to Mr. Good; and he also sends us additional letters of Mr. Good's, which proves that Mr. Good did, at least, *get the letters*. Whether the money did or did not reach Mr. Good may be a good ground for suspicion, but it is a matter better fitted for discussion in a court of justice than in a horticultural journal. Another letter is from the Baltimore gentleman alluded to. Though we may, in truth, say scores of letters in our possession, from as many parties, show that Mr. Good must, to say the best, have been particularly unfortunate in the non-receipt of his money letters, we were particularly anxious that even the most "unfortunate" should suffer no injustice at our hands, and we gave Mr. Good the benefit of all the praise of him that had come to hand. But this gentleman now writes, "I have little doubt that my Delawares are spurious, and many of the others

have leaves all alike; Cuyahoga, Maxatawny and Bullitt particularly, look like some one variety of foreign grape. Should these three varieties have this one uniform and foreign look?" Certainly not, and if they are all thus alike, it is a bare-faced fraud, which should be prosecuted as such in a criminal court. The letters of the other gentleman, though we sympathize with parties in their troubles, we must be excused from further noticing, for reasons stated in our last two numbers.

FRUITS RECEIVED.—*Strawberry Seedling* from Mr. Lanfesty, Philadelphia. Fruit of large size, on a long stem, similar in this respect to Austin Seedling. The quality was not first-rate, but it may possess other qualities that would render it a desirable variety to perpetuate. *Strawberry Seedling* from Wilmington, Del.; so much spoiled in transit that it could not even be tasted. *Raspberry Seedling* from George Raphael, Burlington, N. J., of superior excellence in flavor, but soft like Fastolf, with which we think it possesses too much in common to merit a separate preservation, unless it possess qualities of hardiness, &c., which Fastolf does not. *Franconia Raspberries* from E. Satterthwait, Jenkintown, Pa. Quite as hard and firm as the Allen; very large and showy, of superior flavor; indeed, we doubt whether very many of the new introductions can approach this old one in value in several qualities.

STRAWBERRY GROWING—D. W., Jamaica Plain, Mass., writes: "I have never had a chance since I came to this country, to learn much about the American varieties. In Scotland, we used to grow them, the British varieties, mostly on the hill system, and they did well, but all around Boston they grow the strawberry in beds, so that I have had no chance to see how they do in hills. I have been keeping a look out in the *Monthly*, but I do not see any kind mentioned but the *Triomphe de Gand* grown in that way. I turned over a piece of ground with the Michigan plough last spring, manured and planted it about the beginning of May with Hovey's Seedling, Virginia and Brighton Pine, two feet four inches between the rows, eight to twelve inches between the plants. Now, should I keep them in hills or let them run into beds? I may mention that I will have to depend partly on them for a living, so by that you will understand that I want to make as much off the ground as I can."

[Mr. Knox, of Pittsburg, finds it most profitable to grow all varieties of strawberry in hills. It should not be forgotten, however, that he is a very large cultivator, the most extensive, perhaps, in the Union, and a system that proves the most profitable on a large scale often does not answer so well on a small

one. We do not know any small market-grower who adopts the plan, and as a mere question of profit with our correspondent, we cannot advise him, though we are strongly of opinion that the hill system, even in small places, would be found, in a pecuniary sense, the most remunerative.

BOOKS, HOATHOUSES, &c.—*W. R., Washington, Wash. Co., Iowa*, writes: "Can you not go a little more into details in answering correspondents? (1) I am much interested in that department, especially in relation to hothouses. Can you give me the name of a work on the managing of hothouses? I want to propagate grapes from buds, and roses from cuttings. I want something that will give me full details. (2) I tried it last winter and partially succeeded; have a few grapes from buds that look well. Can I graft Downing's New Mulberry the same as apples? (3) Where can I get roots of the common Mulberry to graft on? Any information on the subject would be thankfully received. (4) Also, I would like to know what process the seed of the Buckthorn must be taken through to make it germinate? Here in the West, fencing material is scarce and costly, and we want something that will make a good hedge. I think our native thorns are just the thing if we can get them to grow." (5)

[1. We should be glad to give fuller details, but it must not be forgotten that the questions in this department interest but a small portion of our readers, however interesting they may be to a few, and justice to the general reader demands a limit to the space the department should occupy.

2. Leuchars on Hothouses is a good guide to construction and principles of management. There is no work on details of hothouse management that we know. McMahon's Gardener's Calendar, Buist's Flower Garden Directory, and Breck's Book of Flowers are very useful to novices.

3. Yes.

4. For obvious reasons we never recommend nurserymen; most of the large nurseries that advertise in our paper could furnish them.

5. When good it grows very readily; when sown in spring, as easily as cabbage seed. No process but mere sowing is required.]

PINE TREE INSECT—*W., Baltimore*, writes: "Can you enlighten me upon a disease I have found this spring to affect my White Pines? After they had made a growth of a foot or sixteen inches, I noticed that the leader ceased growing and turned brown, and upon cutting into the bark, found that white worms, somewhat similar to the Apple-tree Borer, were eating it up. In one specimen I found several dozen worms, ranging in size from an eighth

to a half inch in length; they completely encircle the wood and kill it as they descend. I did not observe any holes in the bark where they could enter, as the borer shows in the apple tree, and I concluded that the eggs of a moth had been laid in the little tuft at the extreme end of last year's growth, which were hatched by our warm vernal suns, and the worms had eaten their way in at that point, and thence descend, until, perhaps, the whole tree is destroyed. I cut the leader off down to apparently healthy wood and then tied up a lateral shoot to form a new leader. I should like to know what would prevent the ravages of this insect, for they have done me much damage. (1) Will you please give me, also, through your excellent *Monthly*, the most satisfactory climber for a locust tree, which I have killed, and lopped off its branches for a support? It is in front of my dwelling, and I should like something ornamental. Is Ivy preferable to a deciduous vine for such a purpose?" (2)

[1. We know of no other remedy for this infestation but cutting off and burning the insects with the parts attacked, and print the inquiry in full, in the hope that any of our friends who may have had experience with the same trouble, will communicate.

2. The Ivy would do well, but we should add with it a Trumpet vine, and if the tree were large enough, a Virginia Ivy—they would all do together.]

WINE GRAPES FOR MICHIGAN—*Sturgis, Michigan*, asks for the best hardy grapes for wine and market in that region.

[In most regions where it has been tried, the Delaware is found to make the best wine. In most of our Middle States, were we to plant for market merely, we should plant largely of Concord; but in your latitude, for the combined purposes of wine and market, we should try Diana and Concord, unless we found that parties in that region had already tried and found other kinds well adapted to the peculiar locality. Experiments in these matters require to be made with great caution in new localities. We have seen, even in this part of the country, thousands of dollars lost on implicitly following advice as to varieties and management, that have been found excellent in other places. In a quite new locality, we should plant small quantities of most of the better known improved kinds for experiment, in addition to the larger quantities of the two kinds named.]

HARDINESS OF FARFUGIUM GRANDE—*W., Philadelphia*, says in reference to the notice in our last, that this entirely disappeared from his border the past winter; killed, as he supposes, by the frost.

TRITOMAS—*W. C. S., Keokuk, Iowa.*—It would be best in your latitude to take up Tritomas late in the fall, cut back the foliage about two-thirds, pack them in boxes of soil, and set in a cool cellar for the winter. We have found them hardy here, but seem somewhat injured and do not flower or grow near as well as those we protect.

JAPAN LILIES—*B., Cincinnati, O.*—You need not fear to risk your Japan Lilies out in the open air; they are perfectly hardy, and, indeed, thrive much better in the open border, when left out over winter, than we ever knew them to do under greenhouse culture. We would, however, replant them every fall—advice that will apply to all the other species of *Lilium*.

Books, Catalogues, &c.

ON THE SOURCES OF THE NITROGEN OF VEGETATION; with special reference to the Question whether Plants Assimilate Free or Uncombined Nitrogen. By John Bennet Lawes, Esq., F.R.S., F.C.S.; Joseph Henry Gilbert, Ph.D., F.R.S., F.C.S.; and Evan Pugh, Ph.D., F.C.S.

After referring to the earlier history of the subject, and especially to the conclusion of De Saussure, that plants derive their nitrogen from the nitrogenous compounds of the soil and the small amount of ammonia which he found to exist in the atmosphere, the Authors preface the discussion of their own experiments on the sources of the nitrogen of plants, by a consideration of the most prominent facts established by their own investigations concerning the amount of nitrogen yielded by different crops over a given area of land, and of the relation of these to certain measured, or known sources of it.

On growing the same crop year after year on the same land, without any supply of nitrogen by manure, it was found that wheat, over a period of fourteen years, had given rather more than thirty pounds—barley, over a period of six years, somewhat less—meadow-hay, over a period of three years, nearly forty pounds,—and beans, over eleven years, rather more than fifty pounds of nitrogen per acre, per annum. Clover, another Leguminous crop, grown in three out of four consecutive years, had given an average of one hundred and twenty pounds. Turnips, over eight consecutive years, had yielded about forty-five pounds.

The Gramineous crops had not, during the periods referred to, shown signs of diminution of produce. The yield of the Leguminous crops had fallen considerably. Turnips, again, appeared greatly to have exhausted the immediately available

nitrogen in the soil. The amount of nitrogen harvested in the Leguminous and Root-crops was considerably increased by the use of "mineral manures," whilst that in the Gramineous crops was so in a very limited degree.

Direct experiments further showed that pretty nearly the same amount of nitrogen was taken from a given area of land in wheat in eight years, whether eight crops were grown consecutively, four in alternation with fallow, or four in alternation with beans.

Taking the results of six separate courses of rotation, Boussingault obtained an average of between one-third and one-half more nitrogen in the produce than had been supplied in manure. His largest yields of nitrogen were in Leguminous crops; and Cereal crops were larger when they next succeeded the removal of the highly nitrogenous Leguminous crops. In their own experiments upon an actual course of rotation, without manure, the Authors had obtained, over eight years, an average annual yield of 57.7 pounds of nitrogen per acre; about twice as much as was obtained in either wheat or barley, when the crops were, respectively, grown year after year on the same land. The greatest yield of nitrogen had been in a clover crop, grown once during the eight years; and the wheat crops grown after this clover in the first course of four years, and after beans in the second course, were about double those obtained when wheat succeeded wheat.

Thus, Cereal crops, grown year after year on the same land, had given an average of about thirty pounds of nitrogen, per acre, per annum; and Leguminous crops much more. Nevertheless the Cereal crop was nearly doubled when preceded by a Leguminous one. It was also about doubled when preceded by fallow. Lastly, an entirely unmanured rotation had yielded nearly twice as much nitrogen as the continuously grown Cereals.

Leguminous crops were, however, little benefitted, indeed frequently injured, by the use of the ordinary direct nitrogenous manures. Cereal crops, on the other hand, though their yield of nitrogen was comparatively small, were very much increased by direct nitrogenous manures, as well as when they succeeded a highly nitrogenous Leguminous crop, or fallow. But when nitrogenous manures had been employed for the increased growth of the Cereals, the nitrogen in the immediate increase of produce had amounted to little more than forty per cent. of that supplied, and that in the increase of the second year after the application, to little more than one-tenth of the remainder. Estimated in the same way, there had been in the case of the meadow grasses scarcely any larger proportion of the supplied nitrogen recovered.

In the Leguminous crops the proportion so recovered appeared to be even less; whilst in the root-crops it was probably somewhat greater. Several possible explanations of this real or apparent loss of the nitrogen supplied by manure are enumerated.

The question arises—what are the sources of all the nitrogen of our crops beyond that which is directly supplied to the soil by artificial means? The following actual or possible sources may be enumerated:—the assimilation of free nitrogen by plants; the nitrogen in certain constituent minerals of the soil; the combined nitrogen annually coming down in the direct aqueous deposition from the atmosphere; the accumulation of combined nitrogen from the atmosphere by the soil in other ways; the formation of ammonia in the soil from free nitrogen and nascent hydrogen; the formation of nitric acid from free nitrogen; the direct absorption of combined nitrogen from the atmosphere by plants themselves.

A consideration of these several sources of the nitrogen of the vegetation which covers the earth's surface showed that those of them which have as yet been quantitatively estimated are inadequate to account for the amount of nitrogen obtained in the annual produce of a given area of land beyond that which may be attributed to supplies by previous manuring. Those, on the other hand, which have not yet been even approximately estimated as to quantity—if indeed fully established qualitatively—offer many practical difficulties in the way of such an investigation as would afford results applicable in any such estimates as are here supposed. It appeared important, therefore, to endeavor to settle the question whether or not that vast storehouse of nitrogen, the atmosphere, affords to growing plants any measurable amount of its *free* nitrogen. Moreover, this question had of late years been submitted to very extended and laborious experimental researches by M. Boussingault, and M. Ville, and also to more limited investigation by MM. Mene, Roy, Cloez, De Luca, Harting, Petzholdt, and others, from the results of which diametrically opposite conclusions had been arrived at. Before entering on the discussion of their own experimental evidence, the Authors give a review of the results and inferences; more especially those of M. Boussingault who questions, and those of M. Georges Ville who affirms the assimilation of *free* nitrogen in the process of vegetation.

The general method of experiment instituted by Boussingault, which has been followed, with more or less modification, in most subsequent researches, and by the Authors in the present inquiry was—to set seed or young plants, the amount of nitrogen in which was estimated by the analysis of carefully chosen similar specimens; to employ soils and water

containing either no combined nitrogen, or only known quantities of it; to allow the access either of free air (the plants being protected from rain and dust)—of a current of air freed by washing from all combined nitrogen—or of a limited quantity of air, too small to be of any avail so far as any compounds of nitrogen contained in it were concerned; and finally, to determine the amount of combined nitrogen in the plants produced and in the soil, pot, &c., and so to provide the means of estimating the gain or loss of nitrogen during the course of the experiments.

The plan adopted by the Authors in discussing their own experimental results was:

To consider the conditions to be fulfilled in order to affect the solution of the main question, and to endeavor to eliminate all sources of error in the investigation.

To examine a number of collateral questions bearing upon the points at issue, and to endeavor so far to solve them, as to reduce the general solution to that of a single question to be answered by the results of a final set of experiments.

To give the results of the final experiments, and to discuss their bearings upon the question which it is proposed to solve by them.

Accordingly, the following points are considered:

1. The preparation of the soil, or matrix, for the reception of the plants and of the nutriment to be supplied to them.
2. The preparation of the nutriment, embracing that of mineral constituents, of certain solutions, and of water.
3. The conditions of atmosphere to be supplied to the plants, and the means of securing them; the apparatus to be employed, &c.
4. The changes undergone by nitrogenous organic matter during decomposition, affecting the quantity of combined nitrogen present, in circumstances more or less analogous to those in which the experimental plants are grown.
5. The action of agents, as ozone; and the influence of other circumstances which may affect the quantity of combined nitrogen present in connexion with the plants, independently of the direct action of the growing process.

In most of the experiments a rather clayey soil, ignited with free access of air, well washed with distilled water, and re-ignited, was used as the matrix or soil. In a few cases washed and ignited pumice-stone was used.

The mineral constituents were supplied in the form of the ash of plants, of the description to be grown if practicable, and if not, of some closely allied kind.

The distilled water used for the final rinsing of all the important parts of the apparatus, and for the

supply of water to the plants, was prepared by boiling off one-third from ordinary water, collecting the second-third as distillate, and re-distilling this, previously acidulated with phosphoric acid.

Most of the pots used were specially made of porous ware, with a great many holes at the bottom and round the sides near to the bottom. These were placed in glazed stone-ware pans with inward-turned rims to lessen evaporation.

Before use, the red-hot matrix and the freshly ignited ash were mixed in the red-hot pot, and the whole allowed to cool over sulphuric acid. The soil was then moistened with distilled water, and after the lapse of a day or so the seeds or plants were put in.

Very carefully picked bulks of seed were chosen; specimens of the average weight were taken for the experiment, and in similar specimens the nitrogen was determined.

The atmosphere supplied to the plants was washed free from ammonia by passing through sulphuric acid, and then over pumice-stone saturated with sulphuric acid. It then passed through a solution of carbonate of soda before entering the apparatus enclosing the plant, and it passed out again through sulphuric acid.

Carbonic acid, evolved from marble by measured quantities of hydrochloric acid, was passed daily into the apparatus, after passing, with the air, through the sulphuric acid and the carbonate of soda solution.

The enclosing apparatus consisted of a large glass shade, resting in a groove filled with mercury, in a slate or glazed earthenware stand, upon which the pan, with the pot of soil, &c., was placed. Tubes passed under the shade, for the ingress and the egress of air, for the supply of water to the plants, and, in some cases, for the withdrawal of the water which condensed within the shade. In other cases, the condensed water was removed by means of a special arrangement.

One advantage of the apparatus adopted was, that the washed air was forced, instead of being aspirated, through the enclosing vessel. The pressure upon it was thus not only very small, and the danger from breakage, therefore, also small, but it was exerted upon the inside instead of the outside of the shade; hence, any leakage would be from the inside outwards, so that there was no danger of unwashed air gaining access to the plants.

The conditions of atmosphere were proved to be adapted for healthy growth, by growing plants under exactly the same circumstances, but in a garden soil. The conditions of the artificial soil were shown to be suitable for the purpose, by the fact that plants grown in such soil, and in the artificial conditions of atmosphere, developed luxuriantly, if

only manured with substances supplying combined nitrogen.

(Conclusion in our next.)

BRIGHT ON GRAPE-CULTURE. Second Edition. That a new edition of his work so soon after its first appearance should be called for must be peculiarly gratifying to the author. Like most men of bold and original views, he has had "a hard road to travel" over the rocks and hills along which the practices or prejudices of his professional compeers have led him.

It is, however, an unquestionable fact, that since the first publication of Mr. Bright's views on grapes, its culture has progressed with giant strides,—not, perhaps, exactly in the channels Mr. Bright has marked out for it,—but he has furnished the food for thought, and the matter for reflection, that has made grape-culture so well understood by the masses. Men of long years of close and excellent practical experience in grape management may feel that they have learned nothing new from the labors of the author; but the thousands to whom the art was almost a sealed book as of magic or necromancy, have been taught to think, to experiment, and to observe, until they have found supposed mysteries perfectly clear, and grape-growing to be an art of easy accomplishment when the scientific principles are mastered; and grape-houses are everywhere going up.

In this edition Mr. Bright has incorporated some new views, leading to modifications of practice which will command the attention of those who wish to have something to think about with the view to improved grape-culture.

THE REPOSITORY of New London, Conn., has been changed to a neat monthly magazine, entitled *The Family Repository and Horticultural Cabinet*. It is edited by Mr. W. H. Starr. It is filled with selections from the best sources, and illustrated with a colored plate as a frontispiece. The one before us has a handsome lithograph of an Easter Beurre Pear.

CATALOGUE OF THE OFFICERS AND STUDENTS OF THE UNIVERSITY OF MICHIGAN FOR 1861. We are indebted to Alexander Winchell, Esq., the Botanical Professor of the Institution, for the copy before us.

CATALOGUES.

PETER MACKENZIE & SON, Philadelphia. Greenhouse and Stove Plants. In the Camellia department we notice descriptions of over one hundred varieties.

JOHN WESTPHAL & SONS, Iowa City. Descriptive Catalogue. 52 pages. Trees, Plants and Flowers.

T. C. MAXWELL & BRO., Geneva, N. Y. Descriptive Catalogue of Bedding Plants, Bulbs, &c. 15 pages.

GEO. D. KIMBER, Flushing, Long Island, N. Y. Fruits, Shrubbery, &c.

COOKS' SUPPLEMENT, Walnut Hills, Cincinnati. Chiefly descriptive of Dahlias and Verbenas.

JAMES N. PRICE, Media, Pa. Fruits.

H. E. HOOKER & Co., Rochester, N. Y. Prepared Bast matting.

F. PRENTICE, Toledo, Ohio. Wholesale Trade List.

J. SHEPPARD, (successor to W. P. Sheppard, deceased,) New York City. Horticultural Agency.

A. F. CONARD & BRO., West Grove, Pa. Fruits and Flowers.

M. A. WALMSLEY, Bristol, Pa. Fruits and Flowers.

New or Rare Plants.

CEREUS KINGIANA.—Some time last spring Mr. Buist sent us a seedling Cactus, which has since bloomed, and proves one of the handsomest of the class. It appears to be a hybrid between *Cereus speciosissimus* and *Epiphyllum speciosum*. The habit of the plant approaches the former, but the flowers are medium between the two in size, and are clear white at the base, broadly edged with purple shaded rose. There is no handsomer tribe of plants than the free blooming and "tall cacti," as the section in question is termed, and the present addition will not fail to become popular.

NEW DWARF BEGONIAS.—A new race of miniature or dwarf begonias has been produced by the Belgian cultivators, which is attracting much attention. It has already become apparent that, remarkable as the begonias are, the plants occupy so much space that amateurs with small greenhouses are unable to possess but a limited number. These dwarf sorts obviate this necessity, for while they are equally varied and rich in their leaf coloring, they grow only six inches high, and form dense masses of foliage as strikingly conspicuous as they are neat and compact in growth. *Begonia Frederic Siesmayer*, raised by Van Houtte, is the original of the group. It is similar to *Rex*, but the zone of silver is larger and far brighter colored.—*Hovey's Magazine*.

ANGRÆCUM SUSQUIPEDALE is one of the rarest, as it is one of the finest; no other Orchid can rival it in the size of the individual flowers. They are seven inches in diameter, of a clear ivory white

color, and the light green spur is a foot in length. It seldom produces more than two or four flowers from the axil of each of the upper leaves. It was discovered and brought to England by the Rev. William Ellis, in whose garden it also flowered for the first time.—*Scottish Gardener*.

NEW SHRUBBERY CALCEOLARIAS.—This class of calceolarias thrive pretty well in our climate, and make good summer bedding plants,—propagating well from cuttings, and keeping well over the winter. We insert the following list of new English kinds in order to call attention to the merits of the class:

Etna.—Crimson, tinted with scarlet, habit first-rate; a most abundant late blooming variety, and will be found admirably adapted for bedding purposes.

Harlequin.—A most pleasing variety; yellow, distinctly spotted and blotched all over the flowers with crimson, very dwarf in habit; a most abundant bloomer.

Little Dorrit.—A pleasing soft yellow, fine-shaped flower, dwarf and good habit; a most abundant bloomer; first-rate for bedding.

Magenta.—Beautiful dark velvet crimson, tinted with scarlet, of fine shape and good habit.

Princess Helena.—Yellow, with primrose shading, very effective; good shape and habit.

The Hon. Mrs. Adams.—Primrose color, distinctly spotted all over with crimson spots; a finely shaped flower, of good habit.

The Queen.—Pure yellow, beautifully marked all over the flower with rich cinnabar red spots; a great improvement on my *Lady Palmerston*.

Victor Emmanuel.—Fine reddish scarlet, distinctly pitted with crimson dots; first-rate habit, and will prove a good bedding variety.

CISTUS VAGINATUS.—From Teneriffe. Has rose-colored flowers, resembling in size and form a single camellia. It is a greenhouse shrub of great beauty, growing about three feet high, and flowering in June.

PELARGONIUM ENDLICHERIANUM.—This is a herbaceous perennial kind, with umbells of eight to ten red carmine flowers, with a rich carmine vein. Though a native of Caucasus, the German *Garten Flora* says it has but recently met with a tardy recognition of merit as a pretty garden plant.

GERANIUM HENDERSONI NANTUM.—This fine variety is a decided improvement upon the well-known *G. HENDERSONI*, which, for a considerable period, was the most reliable self white-flowered bedding geranium known. The present one is a dwarfer

and shorter-jointed growth and more effective in character.

CONVOLVULUS OCULATA, a new and interesting hardly perennial herbaceous plant from China and Japan; of a neat scandent or trailing habit for a wall or trellis, producing numerous blush-tinted funnel-shaped blossoms, picturesque, shaded with dark violet or purple crimson in the centre or throat.

AGATHÆA CÆLESTIS FOLIA VARIEGATA, a very elegant dwarf box-like plant, three to four inches high, with picturesque silver-edged leaves; for front margins and belts. Once *Cineraria amelliodes*.

HYDRANGEA CYANEA, a new species from China, forming a neat dwarf conservatory shrub, with clusters of blush pink sepals, and inner smaller blue petals and stamens.

New and Rare Fruits.

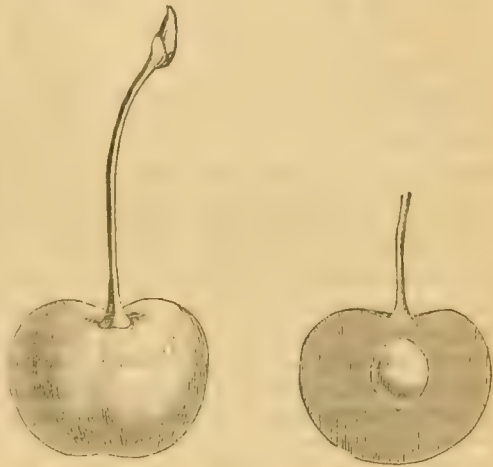
BUCKINGHAM APPLE. (*See Frontispiece.*) At the last meeting of the Pomological Society, held in Philadelphia, few fruits on exhibition attracted more attention than this. It was exhibited by Col. Bainbridge, of South Pass, Illinois. As will be seen from the engraving, the fruit is very large, oblate-conical in shape. It is deeply shaded with crimson, and has large grayish dots. The Committee reported that in their belief the "Meigs," "Jackson Red," "Buncombe" of the South, and "Winter Queen" in Virginia and Kentucky, were names often applied to this variety.

TRIUMPH OF CUMBERLAND CHERRY. We received in the early part of July, a box of very large Cherries of this variety from Mr. David Miller, Jr., Cumberland Nurseries, near Carlisle, Pa., and have engraved an average size specimen.

There are not many cherries that will reach three and a quarter inches in circumference as these averaged. We do not regard it as of the *highest* quality, but it is "very good," and with its other properties of dark black beauty, vigor, and productiveness, would no doubt be one of the most valuable to grow, and we are surprised not to find it much more frequently in collections.



COCKLIN'S FAVORITE CHERRY.—Another from Mr. Miller, which came to hand some days after the above paragraph was written. We believe this to be an undescribed kind and very distinct in many respects from any we know. It is not of largest size or of very striking superiority of flavor, but the very small stone in proportion to the amount of flesh gives it an advantage to the amateur over many popular kinds of larger size. To those who do not care how large the stone is, so that they get a "big cherry," this recommendation will, of course, have light weight.



It is of a beautiful amber color, and Mr. Miller says is a vigorous and abundant bearer, ripening when most of the best kinds are over. Mr. M. is unable to trace its origin correctly, but though it has the growth and foliage of the Hearts and Biggareaus, thinks its general appearance indicates a connection with the Duke class.

Recipes for Fruits & Vegetables.

TO PRESERVE GREEN GAGES.—The following receipt appears to be a good one:—Pick and prick all the plums, put them into a preserving pan, with cold water enough to cover them; let them remain on the fire until the water simmers well; then take off, and allow them to stand until half cold, putting the plums to drain. To every pound of plums allow one pound of sugar, which must be boiled in the water from which the plums have been taken; let it boil very fast until the syrup drops short from the spoon, skimming carefully all the time. When the sugar is sufficiently boiled, put in the plums and allow them to boil until the sugar covers the pan with large bubbles; then pour the whole into a pan, and

let them remain until the following day; drain the syrup from the plums as dry as possible, boil it up quickly and pour it over the plums, then set them by; do this a third and a fourth time. On the fifth day, when the syrup is boiled, put the plums into it, and let them boil for a few minutes; then put them into jars. Should the green gages be over-ripe, it will be better to make jam of them, using three-fourths of a pound of sugar to one pound of fruit.—Warm the jars before putting the sweetmeats in, and be careful not to boil the sugar to a candy.—*Germantown Telegraph*.

PINE-APPLE PRESERVE.—Twist off the top and bottom, and pare off the rough outside of pine-apples; then weigh them, and cut them in slices, chips or quarters, or cut them in four or six, and shape each piece like a whole pine-apple; to each pound of fruit put a teacup of water; put it in a preserving kettle; cover it, and set it over the fire, and let them boil gently until they are tender and clear; then take them from the water, by sticking a fork in the centre of each slice, or with a skimmer, into a dish. Put to the water white sugar, a pound for each pound of fruit; stir it until it is all dissolved; then put in the pine-apple; cover the kettle, and let them boil gently until transparent throughout; when it is so, take it out, let it cool, and put it in glass jars; as soon as the syrup is a little cooled, pour it over them; let them remain in a cool place until the next day, then secure the jars as directed previously. Pine-apple done in this way is a delicious preserve. The usual manner of preserving it, by putting it into the syrup without first boiling it, makes it little better than sweetened leather.—*Germantown Telegraph*.

Domestic Intelligence.

[Concluded from page 217.]

ON "SKELETONIZING."—The art of "skeletonizing" consists in promoting the decomposition of the cellular structure of leaves and certain other parts of plants, without breaking or injuring their woody fibre, which is done very easily and cheaply by macerating them in water. For convenience of illustration, let us select the seed-vessels or burs of *Stramonium* or *Jamestown weed*, which are now just in the right condition, being partially open, but not at all, or very slightly, dried or faded in color; place these in a basin or bucket, and pour on them sufficient hot water to cover them completely, and set them aside. (Cold water will answer the purpose, but not so quickly.) After about three weeks, during which time a little fresh water may be occasionally added, these will be softened and ready for the

removal of the cellular portions. This is accomplished by scrubbing with an old tooth brush or shaving-brush, allowing a stream of water to run over them during the process; the seeds are to be taken out, and the water allowed to run through the burr, but without removing the internal structure in which the seeds are deposited; in this way, a perfect skeleton may be produced, showing all the woody portions, including the external prickles, and, when bleached, having the appearance of delicately carved ivory.

A variety of seed-vessels may be prepared in this way, of which the poppy-head is one of the prettiest; it may be readily obtained in a suitable condition from the druggists; the internal membranous portion containing the seed requires to be removed, after the requisite maceration in water, by a small opening in the side. An offensive odor arising from the decomposition of the cellular structure and its contents is one of the discomforts of this process, but is amply repaid by the beautiful resulting skeletons. In English "bouquets" of these preparations, there are some seed-vessels not often met with in this country, of which the Henbane (*Hyoscyamus*) is beautiful.

The preparation of leaves affords a greater variety of forms than of any other portion of the plant; only the leaves of trees and shrubs, as far as I know, will furnish a skeleton; those of annual and herbaceous plants seems to lose their structure entirely by maceration. Some of the most transparent and delicate leaves and ferns may be bleached by putting into the bleaching solution without previous maceration, but must always be previously faded, so as to have entirely lost their greenness. Among the best leaves for skeletonizing are those of the ivy, the linden, the elm, the poplar, the holly, the pear tree, the chestnut, the sassafras, the magnolia, the althea, and no doubt hundreds that have never been tried; the oak would furnish a beautiful skeleton, but requires from eight to twelve months' maceration, while most of the others named are sufficiently decayed in from one to three months. The leaves should be free from insect bites or other imperfections; in cleaning them, it is best to lay them upon a smooth board, turning them over, from time to time, and very carefully removing the decayed parts with a soft brush. It has been observed that ivy leaves are best prepared after maceration, by tearing off the two outer layers of skin, leaving little else but the skeleton, which is then easily cleaned by careful handling under water. After obtaining the skeletons, the next step is to bleach them; this is done by placing them for a term, varying from an hour to a whole day, in a solution of chloride of lime, made by dissolving about two ounces in a pint

of water. Poppyheads or Jamestown burs will bear double that strength, some delicate leaves, hydrangea flowers, &c., will bleach advantageously with a still weaker solution. The preparation is to be removed from the bleaching liquid as soon as it is thoroughly and satisfactorily bleached; it is then to be washed, dried and put away in a box, excluded from the light, till the collection is ready for mounting. This operation requires much skill and taste; a common way is to make a kind of pin-cushion into which the bleached stems of petioles, or covered wires glued to the base of the leaves and seed-vessels, are to be stuck; the whole may then be covered by a glass shade, which protects "the bouquet" from the dust, and renders it an exceedingly attractive household ornament.—*Friends' Intelligencer*.

METHODS OF PRESERVING FOOD.—One of the most remarkable discoveries of modern times is that of compressing vegetables for their preservation. According to this process, the most bulky, soft and succulent vegetables, are reduced to a fraction of their volume, and are preserved in a dry indestructible state. After boiling for a rather longer time than usual, they are restored to something of their original form and consistence, retaining all their nutritious principles and much of their flavor. According to a statement published in the *Comptes Rendus*, as read before the Paris Academy, the vegetables are reduced seven-eighths in weight, and proportionally in bulk; they require to be heated one hour and a half to one and three-quarters, and on cooling are found to have regained nearly all their evaporated juices.

TO KILL SQUIRRELS, RATS, MICE AND GOPHERS:—Take white glass and beat it as fine as meal; then mix up one quart of corn meal with milk till it is in a proper state for baking. Add to that half a teacupfull of this fine pounded glass, stirring thoroughly through. Place portions of this mixture in barns, around gardens and in the mouth of their dens, and then bid them farewell.—*Oregon Farmer*.

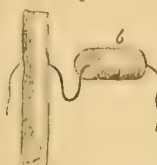
POMOLOGICAL SPIRIT.—The *Oregon Farmer* says, Mr. Calver, located on the Coquille River, rode on horseback two years ago, three hundred miles to Salem, to attend the Oregon Fruit Growers' Society, carrying his specimen of fruit with him.

SALT FOR MANURE.—A paragraph, purporting to be from the *English Farmers' Magazine*, is going the "rounds" of the press, that twelve hundred weight to the acre is a good dressing, and has been found useful. This must be a mistake. It would destroy every thing. Two hundred-weight is enough even for very light soils.

PROTECTION OF TREES.—The *Rural New Yorker* gives an "English Plan" of protection, which seems excellent, and we reproduce it as follows:

Procure poles of any straight-growing tree, six feet or more in length, and two inches in diameter at the thickest end; they should have holes drilled through them at the top and bottom about one foot from each end.

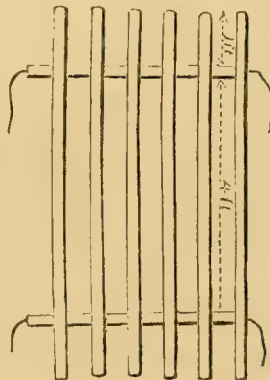
Fig. 1.



Get a similar hole drilled two or three inches up the centre of a stake, and then saw off the length which has had the hole drilled through it, and which will give a piece that, when the string or wire is drawn through it, will resemble *b* in fig. 1. Repeat the

operation till as many pieces are drilled and sawn off as may be wanted. Pass a strong piece of wire, or thick tarred string, through one stake by the hole at the top, and then through one of the two-inch pieces, then through another stake, and so on, separating each stake at top and bottom by one of the two-inch pieces of wood, until you have enough to surround your tree loosely, leaving plenty of space for growth. When this is done, the appearance of the guard, before being put on, will be as in fig. 2. Place the guard thus formed round the tree and fasten the ends of the wire or string. The guard is much the same as the cradle put round the neck of a blistered horse, to prevent his gnawing the irritated

Fig. 2.



part. The ends of the stakes merely rest on the ground, and they should be cut quite flat at the bottom to prevent their sticking in it. At the upper end they should have a sharp slanting cut with a bill-hook, to throw off the rain. The motion of the tree will not be in any degree impeded, and the bark cannot be injured, let the wind blow as it may, for the guard moves freely with the tree in every direction. If a tree is growing rapidly, it will want soon before the guard requires renewing; in which case

it is only necessary to untie the string or wire at the top and bottom, lengthen the string or wire by tying a piece to it, and introduce an extra rod, and two extra separating pieces. As a principal feature in this guard is, that the tree is left quite at liberty to be blown about by the wind in every direction, of course it does not obviate the necessity of staking a newly planted tree until it becomes fairly rooted.



Fig. 3.

Fig. 3 shows, on a larger scale, the ground-plan, or rather horizontal section one foot from the ground, and a portion of the elevation of a tree so fenced. In this figure the wire or string is shown passing through the upright rods and horizontal short pieces, from *c* by *d* to *e*, but from *c* by *f* to *e*, the wires are only shown passing through the upright rods; the short pieces being seen in vertical profile, as they are in nature.

ICE-HOUSES.—We have recently made some experiments with ventilating ice-houses, showing the great advantage of admitting *warm air* to the sawdust which covers the ice at the top. A house, with double walls filled with sawdust, received last winter its usual supply of ice; and the upper door, through which the ice was passed, carefully closed. It was found this summer to be rapidly melting. The door was opened, and the melting ceased. This has been since repeated, and invariably with the same results. When the door is closed, and the air above the ice thus enclosed, becomes cold, the ice sinks away; when it is opened, and air admitted freely from the outside, the melting ceases. This

will perhaps be accounted for in different ways by different persons, but the true explanation is probably this: When the door is closed, the air above the ice is reduced in temperature, and, as a necessary consequence, becomes heavier and sinks or forces its way downwards through the sawdust. Its temperature being above freezing, (although much below that of the common air,) it carries a constant stream of warmth to the ice and melts it. When the door is thrown open, and the air outside freely admitted to blow over it, this air cannot become cooled, and does not sink, and the ice is unharmed.

We have many inquiries from our correspondents, why their ice melts away so rapidly. As a general answer, we might say, you take too much pains in building tight ice-houses. *We never saw ice keep better than in a board shanty.* The air must blow freely over the top of the sawdust, and this shanty was open all around. A rough floor admitted free drainage; about eight inches of sawdust was spread evenly over this floor; the ice then built up in square blocks, leaving about eight inches around next to the siding of the shanty, which was filled and packed in as the structure of ice went up; and lastly, the top was covered with about eight inches of sawdust. This was the whole process. The ice kept perfectly; was used all last summer, and about two tons, which was left over, was thrown out last winter, when the building was refilled. A thickness of eight inches of packed sawdust may be regarded as a perfect non-conductor of heat, for all practical purposes,—perhaps six inches would do, if fine and evenly packed. If not packed, it may have cavities or orifices, and admit enough warm air to melt the whole.—*Country Gentleman.*

PACKING FRUIT.—In no art are we more deficient than that of packing fruit so that it may be carried a long distance without injury. Three-fourths of all our summer fruits sent to market any considerable distance is more or less injured. Indeed, much that is brought to cities by growers only a few miles distant is scarcely fit for sale. Occasionally fruits are sent us with a request to exhibit them at our Horticultural Shows, but in most cases the specimens are so injured when received as to be entirely unfit to show. Mr. Kidd, gardener to the Marquis of Breadalbane, who sends fruits and flowers from the garden near Hampton Court, England, to the Highland residence of the Marquis, subject to five hundred miles carriage, is so successful in packing, that he can send fully ripe peaches “without losing a fruit,” and bouquets that when received will be as fresh as when first picked. He gives his method of packing fruit as follows: “I have found no better method in all my experience, which has

extended over a period of twenty years, with all kinds of fruit, varying in distances from fifty to five hundred miles. It simply is—box, soft paper and sweet bran. A box is chosen, in size, according to the quantity to be sent. A layer of bran is put at the bottom; then each bunch of grapes is held by the hand over the centre of a sheet of paper; the four corners of the paper are brought up to the stalk and nicely secured; then laid on its side in the box, and so on, until the first layer is finished. Then fill the whole over with bran, and give the box a gentle shake as you proceed. Begin the second layer as the first, and so on, until the box is completed. Thus, with neat hands, the bloom is preserved, and may be sent to any distance; but, with clumsy hands, quite the contrary, and often an entire failure, as the putting in and the taking out of the box are the most important points to be observed. I have, invariably, packed sixty or eighty bunches of grapes, and fifty or sixty dozen of peaches or apricots in one box, and received letters from employers, to say that they had arrived as safe as if they had been taken from the trees that morning."—*Rural New Yorker*.

IMPORTATION OF FOREIGN VINES AND FRUITS.—

Col. Haraszthy, one of three commissioners appointed in conformity to a resolution of the State of California, to promote the culture and improvement of the grape-vine in that State, is about to visit the grape districts of Europe and collect all the best varieties to be found. In a circular to grape-growers, he says:

"El Paso on the Rio Grande, frontier place between the United States and Mexico. The fruits chiefly produced are grapes, apples, pears, quinces, peaches and apricots. The quinces are as good as those raised East, but the peaches do not possess so fine a flavor as our own, while the apples and pears are decidedly inferior. The grape is widely cultivated, and is of a large species brought originally from Spain; both the white and purple varieties are raised. In the spring the vines are irrigated, or rather inundated, being altogether under water until the ground becomes completely saturated; this is generally all the moisture they get. The fruit ripens in July and lasts for three months. It is much used for food; and wine and brandy are made from it, both, however, of inferior quality."—*From Zadock Pratt's California Tour*.

OBITUARY.

It is with deep pain that we place on record the death, July 12th, at his residence in Rochester, of HON. SELAH MATTHEWS, widely known throughout Western New York as an eminent lawyer, and who united, with an engrossing earnestness in his own

profession, a taste for Horticultural and Agricultural pursuits, displayed in the beautiful garden and greenhouses adjoining his residence, as well as in his long patronage of domestic and foreign periodicals devoted to these subjects. Mr. M. was suddenly prostrated by an apoplectic attack while engaged in arguing a case in court the day before; he was at once taken home, and lingered there, unconsciously, only until one o'clock the following morning, when he breathed his last.—*Country Gentleman*.

ADVICES from St. Petersburg bring intelligence of the death, on the 6th of last December, at the age of 70, of Mr. V. HARTWISS, the Superintendent of the Botanical garden of Nikita in the Crimea.

Foreign Intelligence.

ARTIFICIAL AMMONIA.—It is said that two French chemists have found out a process by which the hydrogen of water can be made to unite with the nitrogen of the atmosphere.

THE VIOLET IN THE EAST.—*Viola odorata* is the favorite flower of Greeks and Turks, and they cultivate them abundantly in their gardens. They begin flowering, sometimes as early as January, and continue flowering till April, the scent being much more intense than that of the German or French violet. Thousands of bouquets, five violets in a bunch, are sold daily in the Grecian towns, the price being but trifling and every one fond of them, the demand is equal to the supply. The Greeks also make a syrup of violets for coughs. More than even the Greeks, do the Turks love the violet. They plant it in masses; make sherbet and candies of it; spread the flowers in the apartments, especially those of the harem, where the eunuch hands every morning a fresh violet to every lady. The color of the violet is the favorite color of the Turkish ladies, and they call dresses of violet color *menenetic*, from the violet *menexes*.

The Romans made a wine and cakes from the violet, nor were they less fond of the color. There seems to have been a great demand for it, or they would not have had dyers, who dyed violet shades, and none others. Such a dyer was styled *violarius infector*.

With the ancient Greeks the violet was the symbol of the early regeneration of the earth; also of death, on account of its drooping habit. There being many violets around Athens, that city was surnamed the Violet-scented Flora.—*German Flora Regensburg*.

HOW TO DESTROY PLANT LICE.—M. Gerold, an eminent horticulturist of Vienna, states that lice may be destroyed by squirting a decoction of quassia, mixed with soap-suds, on the plants which may be infested with them. M. Oberdieck, another distinguished horticulturist, has followed up the experiment of M. Gerold with great success. For a similar purpose, and the destruction of insects generally, M. Lemaire proposes coal-tar mixed with saponine. Garden soil, with which this preparation has been thoroughly intermingled, has been freed from the snails and other insects which previously infested the greens grown on it. This mixture should not be applied to the plants themselves, because it damages the leaves and flowers. It may safely be applied, however, to the wall behind espaliers. This same compound, spread upon the wall and floor of granaries, will exterminate the weevil. As kindred to this same subject, we may mention that train oil rubbed on the legs and bellies of horses, cows and oxen, will free them from the annoyance of flies and the stings of venomous insects. Unlike the Esquimaux, who feed on this disagreeable substance, insects cannot even bear its smell.

RIPENING SEED FOR DOUBLE FLOWERS.—One great cause of all the ill-success in attempting to grow double flowers is commencing the work too late. It has been thought sufficient to begin with the seed, but a great deal is to be done before that. We know how early the buds for the succeeding year's flowers are formed in perennial plants. Doubling of flowers from which the seed is to be saved for the new progeny are about to be formed. The foundation is to be laid then, and the work must be perfected by the culture of the plants raised from the seed thus produced. When the plants raised from these seeds have acquired about a third of their size, promote their free growth by all possible means. This is the period at which the buds of flowers take their final form. Allow only a few flowers upon each plant to ripen, and do not let the roots be exhausted by opening more than are intended to be set for seed. In the common way, the flowers weaken each other, and part of the seed is always bad. As the seed which follows the first flowers is the best, let these alone stand, and take the rest off in the bud.—*Midland Florist*.

BEGONIA INCARNATA.—As a useful plant for cutting flowers from during winter, this species of Begonia or Elephant's Ear has no superior, being one of those plants the commercial florist grows in quantities, to supply cut flowers for bouquet making. Its color is good by artificial light,—a point of great

importance, and it produces flowers in great abundance, which are graceful either on the plant, or cut and placed in the bouquet, vase, or basket. It is a native of Brazil, and luxuriates here in an artificial temperature during winter, ranging between 50° and 65°, the latter only from sun-heat, and it is advisable to keep the night temperature somewhere near 50°; much higher its beauty is of short duration, while if occasionally as low as 45° it will cause no injury. It will also flower well in the window, although somewhat lighter in color, from absence of light.

A NOBLE OAK.—There is standing on the estate of Lee Steere, Esq., Ruspur, Sussex, England, an oak (*Quercus robur*), that has braved the storms of at least a century and a half, and bids fair to stand as much longer. Its height is thirty-seven feet; circumference, five feet; from the ground, ten feet; from the ground to the first branch, nine feet. The branches cover an area of nineteen square perches.

ROSES.—For a neat surface-dressing for autumnal roses, wood ashes and guano have proved most excellent fertilizers, in the proportion of half a peck of guano to a bushel of wood ashes. Apply a quarter of a peck of the mixture to each tree in a circle of three feet in diameter round the stem, and letting it remain undisturbed on the surface. The ashes retain the moisture from the dew and showers, and the effect in giving a more vigorous growth, with an abundant crop of flowers in autumn, has been very apparent. This dressing should be given in February. Soot in heavy, cold soils is also very good for surface-dressing; this should be applied in January or February, about a quart to a tree in a three feet circle, and lightly forked in in April.

December and January are the best months for applying the strong liquid manures such as solutions of night-soil, soakings of a dunghill, &c., poured on the surface; they need not be stirred until spring. One to two gallons poured on the surface twice in the winter and the surface *slightly forked* two or three inches deep, will give great satisfaction.

Hybrid Perpetual and Bourbon Roses bloom much more abundantly in Autumn if they are removed annually in November, particularly in poor, unfavorable soils. Replant in the same place, giving each a good shovelful of rotten manure mixed with the soil, and top-dress in January with ashes and guano. The annual removal of roses on manetti stocks, planted in poor, light soils, is absolutely necessary, for unless they are removed they will not bloom freely in autumn.—*T. Rivers*.

NEW CHRYSANTHEMUMS.—The *London Gardener's Chronicle* of June 15, thus notices three new Chrysanthemums just received in England from Japan:

"Much as was expected whenever Japan became accessible, we did not anticipate any new races of Chrysanthemums. The semidouble, full double, daisy-flowered, anemone-flowered, and pompons, seemed to represent all that this class of plant was likely to afford. But it is not so. Mr. Veitch has sent home two very distinct forms, evidently the representatives of many a beautiful production yet unborn. Two of them represent the same form, the two varieties differing only in color and size. Their peculiarity consists in the ligulate corollas being all, or nearly all, drawn out into extremely narrow sharp terminations, now and then inclining to fork. These may be called Star Chrysanthemums. The third is quite of another kind, close headed, incurved, with all the corollas divided into two irregular unequal lips. It represents what may be called Dragon Chrysanthemums, in allusion to their ugly yawning jaws. We have no further information about them, but as live plants have reached Messrs. Veitch & Son, we may expect to see them at our next autumn shows."

THE CHERRY FOR ORCHARD-HOUSES.—This delicious little fruit, probably the gift of Lucullus to the Italians, requires very free ventilation if kept under glass. The very earliest is the Belle d'Orleans, and, as such, is suitable for orchard-houses. The Duke tribe are splendid, and the New Royal is highly spoken of. Some late kinds are useful to keep, if there is space for them in the house, and they can be kept in muslin bags. The treatment of the spurs is like plums, and very easy, because the groups of round flower-buds soon form at the base, and by pinching freely in can be kept fruitful. It is a capital plan to *break* the shoots instead of *cutting* them; and as cherry shoots grow very freely, they must not be overlooked: if so, then it is best to break them *partially through*, and let the broken ends shrivel up before cutting them off. If grown as bushes in the house, spur them in *more closely*, and shorten the branches freely. A damp situation is quite unsuitable for a good cherry tree, and they require calcareous matter in the soil.—*London Journal*.

ON FORCING VIOLETS.—About the latter end of September, or beginning of October, I commence forcing violets. Commence by placing a layer of faggots on the surface of the ground, and so continue to the height of three feet; then put on a layer of strawy litter on the top of the wood, so as to prevent the soil falling through; on the top of this

place a layer of turf all over the bed, after which the frame is put on, and filled to about eighteen inches of the glass, with good rich mould. When the mould is settled in a day or so, take the plants up with a ball of earth attached to them, and plant them in the frame, putting a little dry earth between the plants, and giving them a good soaking of tepid water; the frame is closed up for a day or two, until they have taken fresh root. After the plants are established, put a lining of stable dung all round the frame; the heat of the dung affords a bottom-heat to the violets, and by replacing the lining when required, a degree of heat sufficiently to force them to a very high degree of perfection can always be maintained.—*Floricultural Cabinet*.

SPIRALS OF PLANTS.—It is a well known fact that certain plants grow spirally, some tending to the right and others to the left. Some new light has lately been shed upon this subject by Professor Wiedeman, who, in a communication to the Royal Society, London, attributes the phenomena to positive and negative electric currents. He states that in some experiments made by him with iron wire, he found that when he twisted it in the manner of a right-handed screw, after the passage of an electric current through it, the point at which the current entered always became a positive pole; and when he twisted it to the left hand, the point of entrance became a negative pole, and the wire magnetized. Currents of electricity flow through all plants.

PREMIUMS FOR GARDENERS.—At a recent meeting of the Imperial Horticultural Society of France, at Paris, premiums were offered for the longest term of service. The first-class silver medal was awarded to a Mr. Margingnon, for forty-six years' service, and to eight others similar medals for terms ranging from thirty to forty-six years. We note the name of M. Naudin, famed as a sound writer on horticulture, for thirty-two years' service.

THE SPAWN OF FUNGI is proving quite a new disease to British gardeners. Their journals are filled with accounts of its wide-spread and destructive effects.

SEEDING OF WELLINGTONIA GIGANTEA.—*Revue Horticole* says a plant only seven years old has borne seed at Thetford, and it is hoped it will therefore soon become common.

PINUS SINCLAIRII, Lindley remarks, is the same as *P. Benthamiana*; is probably also sold for it.

CRYPTOMERIA JAPONICA is popular in Japan as a hedge plant.

PINUS FRIESEANA.—Called after Mr. Fries, the eminent botanist at the University of Upsala, Sweden, is the Pine of Lapponia, which Linnaeus and Wahlenburg, without any further comment, classified with *Pinus Sylvestris*. It, however, differs from the latter by standing higher on the mountains than Norway Spruce—*Abies excelsa*—whilst *P. Sylvestris*, as a general thing, grows at less altitude than *A. excelsa*. Further, by its cracking bark, which does not scale off like that of *P. Sylvestris*. Lastly, the leaves are more rigid than *P. Sylvestris*, and their axis from the branches is a larger one.—*Regensberger Flora*.

PISTILLATE STRAWBERRIES.—Dr. Lindley says in a recent *Gardeners' Chronicle*, that with the exception of the Hautbois variety, if any one has ever yet discovered a sterile strawberry in England, he has yet to hear of it. It is remarkable that climate should so affect the reproductive organs, as the great number of sterile seedlings our country raises exhibit.

Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The regular monthly meeting was held on Wednesday evening, the 17th ult., at Concert Hall. As no competitive displays are made at the mid-summer meetings, the objects exhibited were few in number, yet quite noteworthy.

Mr. Robert Hurst presented a collection of Phloxes, of great variety and beauty; also, six Gloxinias, a truly choice and handsome display, and two new plants, exhibited for the first time, the *Heterocentrum album* and *Maranta capitata*, the latter an ornamental foliage plant of compact habit, robust growth, and large, rich, dark green leaves, very pleasing in form and character.

A Leontodon, gardener to H. Duhring, Esq., displayed the finest collection of vegetables we have seen this season, including seven varieties of Potatoes, Peas, Carrots, Beets, Squashes, Cucumbers, Tomatoes, Lettuce, Cabbage and Kohl rabi, also, Cherries, Currants, some very fine and large Black Currants, and two dishes of the famous Hornet Raspberry, the largest and one of the highest flavored and most productive varieties known.

Mr. A. L. Beaton contributed a large dish of Lawton Blackberries, of immense quantity, fully ripe, quite early for this variety.

Mr. Harrison exhibited samples of Needham's White and Dorchester Blackberries, and of the Allen Raspberry. The first mentioned fruit is of a purple-bronze color, of small size, growing in clusters like bunches of grapes; the flavor is somewhat between the Blackberry and Mulberry. The Dorchester is a large, handsome, glossy black fruit, very sweet and about a week earlier than the Lawton.

The Treasurer presented his semi-annual report.

C. H. Rogers, Esq., and John Stone, gardener to W. W. Keen, Esq., were elected members.

The committee on procuring a new room was continued.

Mr. Saunders presented some leaves of exotic grape vines which had been punctured by an insect, bore specimens of which were produced and proved new to most of the members. He first observed them last year, and had found no effective means of destroying them.

Mr. Barry, whose vines had suffered most from the same cause some five years ago, stated, as an effectual remedy, the syringing through the entire vine with a strong decoction of one pound of quassia in five gallons of boiling water, applied cold. It does no injury to the young foliage.

Mr. Mittemore brought to the notice of the Society the Aquarius or Hydropult, a cheap, simple and convenient combination of the garden hose, engine and syringe.

The subject of mildew was introduced by Mr. Saunders, and many interesting facts as to culture, mildeering and shelter were elicited. A desire was expressed that kindred subjects be introduced at future meetings to discussion and to their information and interest. Appearance of cult statues, which, it was believed, would excite increasing interest in horticultural topics, and very much add to the usefulness of the Society.

FRUIT GROWERS' SOCIETY OF WESTERN NEW YORK.

The Fruit Growers' Society of Western New York, held a meeting at Syracuse, on the 24th of last month, and from a report of its proceedings which we find in the *Rural New Yorker*, we condense the following extracts:

I. What three varieties of Strawberry are the most desirable for amateur or market cultivation?

II. What varieties of Gooseberry can be successfully grown in this country?

III. The best method of preventing the ravages of the gooseberry and currant worm?

IV. The best varieties of Currants, and the best method of cultivation for market?

V. Is it advisable to recommend the culture of the Black Currant extensively?

VI. The best varieties of Raspberry, and the best method of cultivation?

VII. Is it desirable to cultivate the Blackberry as a garden fruit?

Nearly all who spoke concurred in placing the Wilson Strawberry as one of the three desirable varieties. The Wilson Triumphant de Gand, the Hovey, the Early Scarlet seemed to be those which were most esteemed.

The questions discussed were as follows:

The first question called out considerable discussion, but it was all summed up in what Mr. Barry, of Rochester, said:

"We cultivate over fifty sorts, and it is difficult to select three. Can recommend twenty good strawberries for amateur use. Wilson is the most profitable market berry. The Crown is a good deal away in the New York market for twenty years, but is now being now displaced by the Wilson. Triumphant de Gand is excellent in native enough, and about as heavy as most of our varieties.

Early Scarlet retains its popularity for an early variety, but only last year, at this time, is ripened and larger, and of a very good quality. When it becomes generally cultivated, experience may show that the Scarlet possesses some superiority over it for general culture, but it is not very promising. That day's celebrated strawberry has proved worthless."

The second question elicited the general opinion that the American Seedling was superior to the Washington, and that the latter was affected with mildew sometimes while the American was not. Mr. Ellwanger said:

"I consider what is called the American Seedling one of the best of the American varieties. It is cultivated in some nurseries as Houghton's Seedling, but it has a slender, erect growth, while Houghton's Seedling is trailing. It is very productive. The fruit is not so large as Houghton's Seedling, but this is met by mildew, while the American seedling never does. Of the English varieties the Whitesmith is the best."

Mr. S. N. Holmes, of Syracuse, said:

"What can I do to grow gooseberries free from mildew on a heavy soil? Have had but poor success." Some suggested good drainage, but Mr. Holmes said his garden was pretty well drained. Mr. Ellwanger recommended taking up the plants every second year, pruning both roots and tops, and setting them out again. This would usually prove effectual. Crown Bob was next to the Whitesmith of the English sorts for freedom from mildew.

In answer to the third question: One member recommended syringing the under side of the leaves with a decoction made of one pound of wine oil dissolved in six gallons of water with half an ounce of aloes. But another said that he had laid aloes, soft soap, nux vomica, lime, &c., and had seen the worms eat the leaves with the stuff on them. Digging the ground in the fall, and leaving it rough seems to have the effect of pugging out the insects.

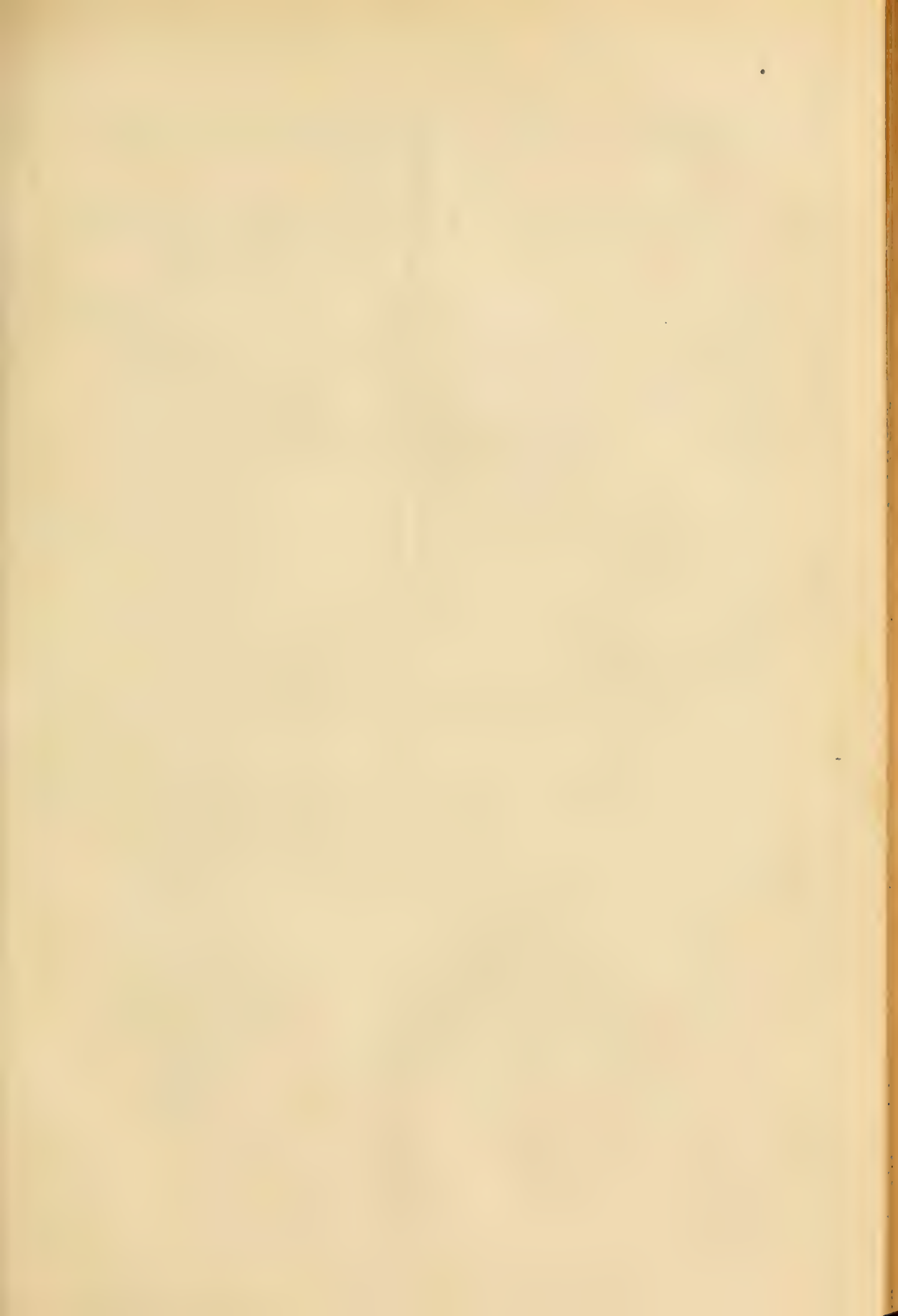
The fourth question elicited the opinion that the white grape currant was the best for market and the table. The white and red Dutch were each pronounced good varieties. Mr. Barry said:

"Manure for the currant is fully as important as pruning. Few persons have any idea how much manure a currant bush needs. The currant has fine roots growing in a small compass, and unless these are supplied with plenty of food, the fruit will be small, no matter what the variety may be. This often causes disappointment to those who expect large fruit."

The fifth question, as to Raspberries, elicited the following notice of a number of sorts, from Mr. Sylvester, of Lyons:

"Doolittle's Black Cap is very good, hardy and productive. Obtained a few years since a variety called American Red Cap, that I like. A year or two ago obtained from the neighborhood of Syracuse a variety called Southern Black. It is perfectly hardy, and appears to be larger than Doolittle. The Orange nearly hardy, and the best of the half-hardy kinds. Bagley's Perpetual is perpetual in fruit in this country. Ohio Ever-Bearing is very much like Black Cap, but gives a crop in the ordinary season, and then flowers and bears again in the fall. Had seen fruit and flowers on the plants when winter sets in. For those who want a little fruit out of the ordinary season, it is a good kind. The Antwerp is good when laid down for protection during the winter, which should be done by amateurs."

In response to the inquiry relative to the Blackberry, there did not seem to be any direct answer. All concurred that the best Blackberry was likely to be improved by the freest and earliest protection. It does best on a light soil.



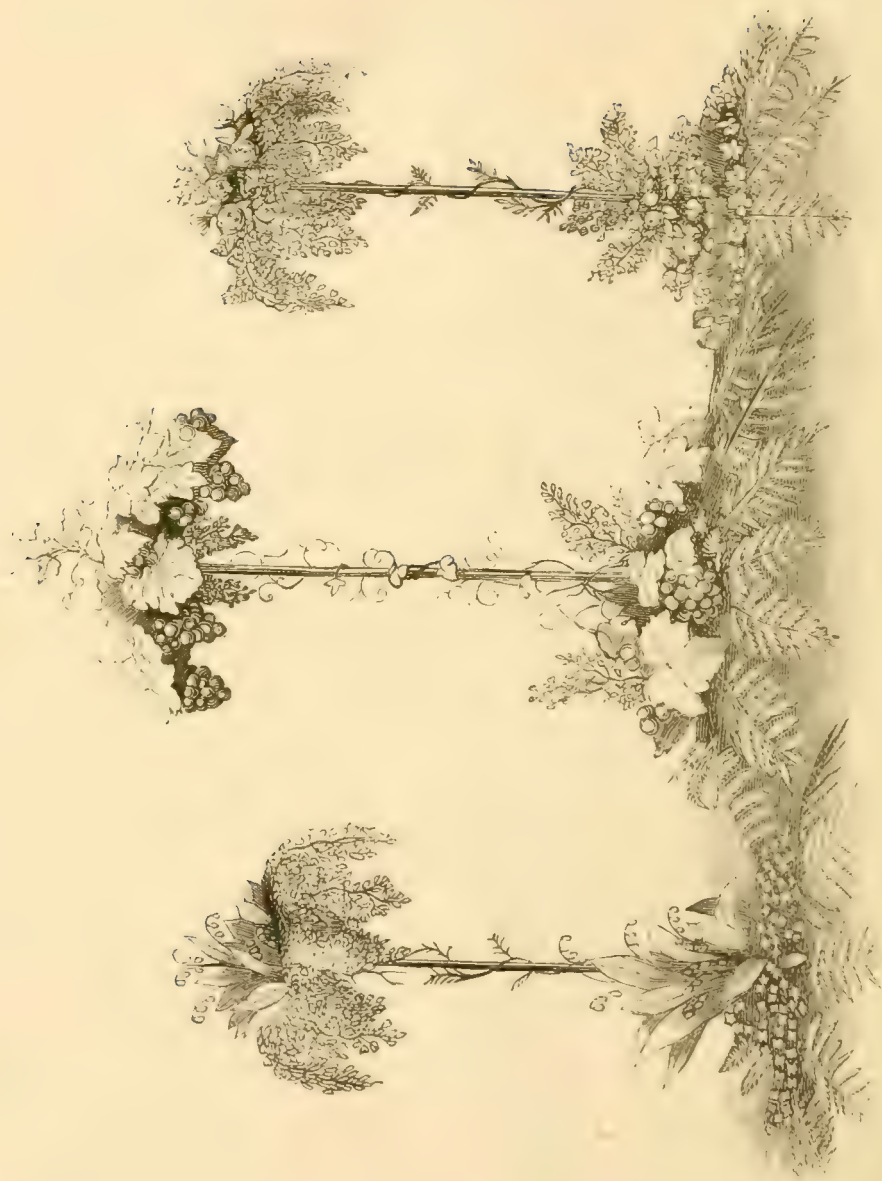


TABLE DESIGNS AND DECORATIONS.

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

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VOL. III.—NO. 9.

Hints for September.



FLOWER-GARDEN AND PLEASURE-GROUND.

THE present state of national affairs has a great tendency to lead parties from the city to the country. Fashion has lost much of its urbic charms; and this, with a wide-spread demand for economy, will lead many to rural life, who would a year ago have not even thought of it. Hence the flower-garden and pleasure-ground department of our journal, and every thing in connection with the laying out and improvement of country homes, will, at this season, possess more than usual interest.

Too often improvements are commenced without any idea of what it will cost to maintain them after completion. It is not unusual to find places that have been handsomely laid out, in a disgraceful state of neglect, the owners finding that they cost considerable more than they supposed. We should proceed with such improvements precisely as we would in getting a horse and carriage. Every one knows that the annual depreciation of these is about ten per cent.; and no one who wishes to keep them up to the original standard, ever gets them without preparing himself, or endeavoring to foresee how he is to meet the additional drain. Our experience is, that very nearly the same provision has to be made for gardening and ground-work that horses and carriages require. If we expect to keep up a place to the standard of its first completion, it will require an annual outlay of ten per cent. on its first cost to maintain it.

Very much of one's original capital is also wasted in ground-work, through having no pre-conceived methods of arrangement. The architect prepares his plans with great care; and it can be seen before-

hand the position of every room, and the spot that every stone will occupy in the building; but if inquiry be made about the gardening affairs, "don't know, haven't decided," is the usual reply. The gardener and architect should be consulted together, and not a spadeful of earth be broken for the building till every garden arrangement has been forecast and decided on. This, of course, will cost a little more for plans and specifications for groundwork, but it will save immensely in the end, especially if all the heaviest part of the work can be so clearly specified as to provide for its execution by contract.

In providing for groundwork, much that is often done is entirely useless. Soil from excavations is often carted a long way at great expense, that could in most cases be advantageously employed close by in giving variety to the surface of the adjoining ground. Eminences and rocks, unsightly in the rough, are often removed only at great expense. These, by adding to them in some respect, or by judicious planting or covering with vines and creepers, may be transformed from blemishes to beauties at a trifling cost. So, small foot-paths are often dug out as deep as carriage-roads, and stone enough employed in the filling up to bear a weight of tons. All of these costly errors may be avoided by an intelligent plan of operations, and by the employment of honest experience at the head of affairs.

As the planting season arrives, it is as well to repeat what we have often remarked, that the relative advantages of spring and fall planting are about evenly balanced. Failures follow all seasons. *How to plant* is of far more importance than *when* to plant, and the selection of stock to plant, of far more importance than the time when it is done. A tree that has been once or twice before transplanted, and again carefully and intelligently taken up, may be successfully removed at either planting season, with the odds of perhaps one hundred to five in its favor. But a tree never before transplanted—such, in fact, as a tree from the woods, or left standing in the nursery from the seed-bed, is very risky at any time, and depends rather on the weather following transplanting for the first few weeks for any probability of success. In selecting trees for planting, then, be very particular to ascertain that they have an abund-

ance of fibrous roots, and are carefully removed. In this region, we would plant evergreens at once, after or in prospect of the first good rain. Deciduous trees we would plant just before the final fall of the leaf, shortening off the ends of those shoots that were not quite mature. After the 15th of October we would not plant evergreens, nor deciduous trees after the first of November. Early or not at all should be the motto.

Propagation of stock for next year's budding, should proceed vigorously. The best way to propagate all the common kinds of bedding plants is to take a frame or hand-glass and set it on a bed of very sandy soil made in a shady place in the open air. The sand should be fine and sharp, and there is, perhaps, nothing better than river sand for this purpose. The glass may be whitewashed on the inside, so as to afford additional security against injury from the sun's rays. Into this bed of sand cuttings of half-ripened wood of the desirable plants may be set, and after putting in, slightly watered. Even very rare plants often do better this way than when under treatment in a regular propagating-house. In making cuttings, it is best to cut the shoot just under a bud,—they root better, and are not so likely to rot off and decay. A cutting of about three eyes is long enough for most strong-growing things, such as geraniums, fuchsias, &c.

Small-growing things, of course, will take more buds to the one cutting. From one to three inches is, however, long enough for most cuttings. They should be inserted about one-third of their way under the sand, which latter should be pressed firmly against the row of cuttings with a flat piece of board,—not, however, hard enough to force the particles of sand into the young and tender bark, which is often the first step to decay. For a few cuttings, they may be inserted with a dibble; but where many are to be put in, it saves time to mark a line on the sand with a rule or straight edge, and then cut down a face into the sand, say one or two inches deep, when the cuttings can be set against the face like box-edging.

All amateurs should practice the art of propagating plants. There is nothing connected with gardening more interesting.

Many kinds of bedding plants of succulent or sub-fleshy growth, can be taken up from the flower-beds on the approach of frost, and cut in, say one-half, and packed thickly in boxes of soil, and kept in a rather dry and cool cellar through the winter. Such fine plants make a much better show in the beds the next year than plants of the present season's striking. A cellar is one of the most useful appendages to a garden. Were we to have only *one* choice, we

should prefer a cellar to a greenhouse for its general usefulness.

We have had many inquiries recently about cold pits for the protection of half-hardy plants through the winter, and in reply reprint the following from one of our back volumes:

Those who have no greenhouse, and yet are desirous of preserving many half-hardy plants through the winter, employ *cold pits*. Choose the driest situation in the garden, and sink about five feet in depth. It is important that no water can be retained at the bottom. The pit may be of any length required, and about five feet wide, so as to accommodate six feet sash. The inside of the pit may be built up of boards, or, if something more durable and substantial is required, brick or stone. The body of the frame may be built up a few feet above the level of the surrounding soil, and the earth which comes from the pit be employed in banking up to the upper level of the frame. Shelving should be made for the inside so as to extend from the base of the front to nearly the top of the back, on which to place the plants in pots. In the space which will then be under the staging, hard wooded and deciduous plants, as lemon verbena, fuchsias, &c., may be safely stored, while the more succulent kinds are shelved overhead. The plants to be preserved in such a pit should be potted early, and be well established and healthy before being pitted; much of success depends on this. The less water they can be made to live on without withering through the winter the better will they keep. Straw mats must be employed to cover the glass when freezing time commences, and when the thermometer is likely to fall below 20°, straw or litter should be thrown over. Board shutters are also excellent, as it keeps the snow out from the straw and litter, which sometimes makes the mats very awkward to uncover when we would like to give air. Very little light or air will be required through the winter when the plants are not growing. If a good fall of snow cover the pit, it may lie on undisturbed for two weeks or more without injury. When a warm dry day offers, the sashes may be raised if convenient, to dry up the damp. Many kinds of border plants can be kept over winter this way with little trouble.

As soon as Dutch bulbs can be obtained, they should be at once planted. Of all fertilizers, well-rotted cow-manure has been found best for them, and especially if mixed with a portion of fine sand. They should be set about four inches beneath the surface of the ground, and a little sand put about the root when being planted. A very wet soil usually rots the roots, and a dry one detracts from the size of the blooms. A soil in which the generality of garden vegetables do well, is one of the best for these plants.

FRUIT-GARDEN.

Trees that have long stems exposed to hot suns or drying winds, become what gardeners call "hide-bound." That is the old bark becomes indurated,—cannot expand, and the tree suffers much in consequence. Such an evil is usually indicated by grey lichens which feed on the decaying bark. In these cases a washing of weak lye or of lime water is very useful; indeed, where the bark is healthy, it is beneficial thus to wash the trees, as many eggs of insects are thereby destroyed.

Whitewash is frequently resorted to by farmers; but the great objection is its unsightly appearance,—the result is otherwise good. The great opposition to washes formerly was, that the pores of the bark were closed by them,—this was on the supposition that the bark was alive; but the external bark of most trees has been dead years before the time of application; and the "breathing," if so the operations of the pores can be called, is through the crevices formed in the old bark, by the expansion of the growing tree by which the living bark below has a chance of contact with the air. No matter what kind of a coating is applied to the bark of a tree, it will soon crack sufficiently by the expansion of the trunk to permit all the "breathing" necessary.

In preparing for planting trees, the soil should be stirred up at least two feet in depth. Of course, the trees should be planted in the holes only so deep as they stood in the ground before, rather higher, if any thing, as the soil will settle. Good, common soil may be filled in the holes if the natural soil is very bad; but any thing applied as manure may be stirred in the surface-soil after the trees are planted. Some object to making deep holes for planting trees, as, if the soil is stiff, they become wells, collecting water from surrounding soil, and rotting the roots. It is best to underdrain such soils before planting. If this cannot be done, it is best to plant such ground in the spring. The water objection is a fatal one for fall planting in such ground.

The preservation of fruits through winter is a very important, but ill understood subject. Mc Mahon's directions on this subject are pithy, and little has been added to the general knowledge since his day. He says:

"Winter pears and apples should generally be gathered in October; some will be fit for pulling in the early part, others not before the middle or latter end thereof.

"To know when the fruits have had their full growth, you should try several of them in different parts of the trees, by turning them gently one way or the other; if they quit the tree easily, it is a sign of maturity and time to gather them.

"But none of the more delicate eating pears

should be suffered to remain on the trees till overtaken by frost; for if they are once touched with it, it will occasion many of them to rot in a very short time. Indeed, it would be needless, even wrong, to suffer either apples or pears to remain on the trees after the least appearance of ice upon the water, as they would be subject to much injury, and receive no possible kind of benefit afterwards.

"Observe in gathering the principal keeping fruits, both pears and apples, to do it when the trees and fruit are perfectly dry, otherwise they will not keep so well; and that the sorts designed for *long-keeping* be all carefully hand-pulled, one by one, and laid gently into a basket, so as not to bruise one another.

"According as the fruits are gathered carry them into the fruitery, or into some convenient dry, clean apartment, and lay them carefully in heaps, each sort separate, for about ten days or two weeks, in order that the watery juices may transpire, which will make them keep longer, and render them much better for eating than if put up finally as soon as pulled.

"When they have lain in heaps that time, wipe each fruit, one after another, with a clean, dry cloth, and if you have a very warm dry cellar where frost is by no means likely to enter, nor the place subject to much dampness, lay them singly upon shelves coated with dry straw, and cover them with a layer of the same.

"Or you may wrap some of the choice sorts, separately, in white paper, and pack them up in barrels, or in baskets, lined with the like material. Or, after being wiped dry, lay layer about of fruit and *perfectly dry* sand in barrels, and head them up as tight as possible. In default of sand you may use barley-chaff, bran, or *dry* saw-dust.

"Another method, and a very good one, is to be provided with a number of large earthen jars, and a quantity of moss, in a perfectly dry state; and when the fruits are wiped dry as before directed, your jars being also dry, lay therein layer about of fruit and moss till the jars are near full, then cover with a layer of moss.

"Suffer them to remain in this state for eight or ten days, then examine a stratum or two at the top to see if the moss and fruits are perfectly dry; and if you find them in a good condition, stop the jars up with good cork plugs, and cover them with some melted rosin to keep out air. The pears and apples to be used this way should be of the latest and best keeping kinds, and such as are not generally fit for use till February, March or April.

"After the jars are sealed as above, place them in a warm, dry cellar or room, on a bed of *perfectly dry* sand, at least one foot thick; and about the middle of November, or sooner if there is any danger to be

apprehended from frost, fill up between the jars with very dry sand, until it is a foot thick around and over them. Thus you may preserve pears in the greatest perfection for eight or nine months, and apples twelve.

"Be particularly careful to examine every fruit as you wipe it, lest it is bruised, which would cause it soon to rot and communicate the infection, so that in a little time much injury might be sustained in consequence of a trifling neglect in the first instance; but, above all things place your fruit, whatever way they are put up, completely out of the reach of frost.

"The common kinds, for more immediate use, after being sweated and wiped as before directed, may be packed in hampers or barrels, layer about of fruit and straw, and placed where they will neither be exposed to damps nor frosts."

HOT AND GREENHOUSE.

In the greenhouse, repairing and thorough cleansing must not be delayed. Painters say this is the most advantageous month to paint wood-work. Whenever the night temperature falls to 40°, any tender plants in pots should be housed, without waiting for "the first week in October." Things nearly hardy, as azalea, rhododendrons, oranges, &c., do best out "to the last." Any desirable plant for forcing, that may be growing in the open border, if potted early in the month, will do very well for that purpose. *Weigela rosea* does excellently this way; as also does *Jasminum nudiflorum*, *Forsythia viridissima*, many *Spiræas* and Persian lilacs. Roses and other things intended to be forced early, should have as much air and be kept as dry as possible without injury. Hyacinths and other bulbs should also be potted as soon in the month as they are obtained; the former are best planted an inch deep. The earlier bulbs are potted the finer they flower,—you may get catalogues of any number of kinds or colors at the auction marts. If you get ten per cent., as represented, when they flower, you will be favored. *Mignonette*, *rhodanthe manglesii*, and similar ornamental annuals essential for winter blooming in well-kept houses, should be sown at once. Many things for next season's flowering, must not either be forgotten. The pansy, *calceolaria* and *cineraria*, are in this class. Plants of these that have been kept over the summer, will require a re-division, and kept in a close frame a few days afterwards, till they get re-established. Propagation of all things will still require constant attention. It should always be an aim to possess one duplicate plant, as a provision against accidents. In many cases, young plants are preferable to old ones; so that the old ones may be destroyed when these are obtained.

In the hothouse, the *æschynanthus* will soon be the chief ornament of this division. Their number has increased so that they have become quite a feature. If the pots seem full of roots, they may still have another shift. They prefer very fibrous peat; or, if that cannot be had, turfy loam, mixed with a portion of coarse moss. They will, however, do pretty well in small pots. *Achimenes* and *gloxinias*, as they go out of flower, should be kept dryer and cooler. Look well after a good stock of pentas, *centrum* and *habrothamnus*; they will go far towards keeping up the interest of the department in winter. *Justicias* and *acanthaceous* plants generally will probably require another shift if fine specimens are desired. The atmosphere, if the house be light, can scarcely be too moist for them. *Plumbago rosea* is one of the most valuable stove plants we know for winter flowering; it requires a strong heat. *Clerodendrons*, as they go out of flower, should be kept in a very airy situation, and rather dry, preparatory to being cut down and treated like a *pelargonium* for another year. Many *begonias* will be past their best flowering stage; very little watering serves them; they are very liable to damp off by incaution in this respect. It is difficult to lay down rules for orchidæ, so much depending on the circumstances under which they are grown. Those which have finished their growth,—as many *dendrobiums*, *oncidiums*, *catasiums*, &c., whose flowers appear just before new growth,—should have their supplies of moisture gradually lessened. The temperature, also, is better gradually lowered a few degrees, and they should be allowed more light than usual. The period when they are about completing their growth is the most critical, as any check at this time spoils the prospect of much blossom for next season. Those which flower from the young growth, as *catleya*, *laelia*, *broughtonia*, &c., will require their moisture and heat rather increased than otherwise till after their flowering. *Vandas*, *anagræcums*, *saccolabiums*, and other strong-rooting aerial kinds, will require constant humidity, until it is evident, from the points of their roots, that they desire to stop growing. We are often asked "how often orchids require to be syringed?" If the situation in which they are growing be favorable,—that is, retains in its atmosphere a regular humidity,—they will require very little attention; in many cases not requiring the syringe once a week. Where this cannot be affected, the syringe must be oftener applied. As a rule, I think no better one could be offered, than to syringe orchids just so much as will barely keep moss attached to their block and baskets green and growing. The real terrestrial orchids will require no moisture at all after they have completed their growths, until they show signs of pushing again. Care against checks

in temperature and humidity, is one of the secrets of successful orchid growing. Those which are at rest do well in a temperature of 60° at the lowest. Those which are growing well should be kept at about 80°.

Communications.

THE EMILY GRAPE AGAIN.

BY S. MILLER, LEBANON, PA.

It is said that every man has sins enough of his own to answer for, and should not be loaded with those of others. On this principle I reply to Mr. Tompkins, page 169, present volume of your journal.

Yes, friend Tompkins, there is a true Emily Grape, and is said to be very good, but I know it to be of foreign parentage, and therefore of but little value out-doors. I will send you one in the fall, or some other good grape instead if you prefer, and inform me. Since I have discovered the error, I have been replacing true Emilys as fast as I can propagate them, and it is perfectly right for any one to demand it.

You, Mr. Editor, quote a part of the controversy at the Pomological Convention, and wind up by saying that Mr. Raabe denies having sent it out.

Let Charles Downing, of Newburg, N. Y., or J. B. Garber, of Columbia, Pa., tell where they got their Emilys. Let Thomas M. Harvey, of Jenner-ville, Chester Co., Pa., tell us whether he did not see that very same spurious Emily, (Black Virginia, as Mr. Raabe called it,) in Mr. Raabe's garden on the same day that Mr. Raabe proclaimed in the discussion room, that he had put it away years before. Here I have quoted good authority. *These* men, than whom more honorable ones are not to be found anywhere; on these I call to let the public know how this matter stands. It is high time that this saddle gets put upon the right horse.

All the Emily vines I sent out were propagated by Mr. Raabe, from whom I bought them when small. It is only fit for stocks, to graft or inarch others upon; for which purpose it is well adapted, as it is a very hardy vine and a vigorous grower.

HORTICULTURAL PROGRESS.

BY OLD PACKER, ROCHESTER, NEW YORK.

In your editorial on the Californians, you charge them with being fifty years behind the times; but I think they are not more than fifteen, in corroboration of which I will relate a fact. Fifteen years since, I wrote to a friend of mine in London to purchase me some Victoria Rhubarb plants, and after waiting what I conceived due time for my plants, I

received in their stead a letter from my friend, stating that he had been to a firm in the King's Road, Chelsea, (Messrs. Knight's,) and they informed him that it could not be packed to send to America under a great expense of glass cases and personal attention on the voyage.

What would we now think of packing rhubarb in glass cases to send to Kansas or Nebraska, which occupies frequently as long a period as the voyage from Europe?

Much I have seen imported by being merely pitched in, pell-mell, amongst dry moss in a box, and on its arrival here opened out in fine condition, much of it not grown over an inch after its confinement in darkness for weeks. After this, be easy with the Californians.

While writing, I would be glad to be informed if it is about correct to receive two hundred seeds of Double Zinnia, and only half to grow, and that half single, with the exception of five plants. This has been my fortune with two hundred seeds from European head quarters.

Will the five plants I have, perpetuate their double quality in their seeds? For they are beautiful and I do not wish to lose them. From present appearances, it looks to me as if the wet retained by the dying corollas will destroy the seeds if any. Can I hope for double plants saved from the single flowers? How is it? Oblige by telling me how you proceed to save seed, for I see you exhibited at the Philadelphia Exhibition.

[Good for the Californians. Still we had no intention of bearing hard on them any further than the simple circumstance we related went. In many respects their progress in horticulture is marvellous, while we could find much ignorance quite as reprehensible in older States. Our aim was to illustrate a national neglect by the instance quoted.

The Zinnias exhibited from Mr. Meehan's Nurseries were also from "head quarters." About two-thirds came single. This is to be expected from this class of double flowers. Just as in the Dahlia and the Gillyflower, (we do not like the modern name of "Stockgilly,") more of the seedlings will prove single than double.

The only advice we can give is to save seeds from the doublest and most luxuriant flowers, and observe the usual rules in these cases "made and provided."—ED.]

BLACK APRICOT STOCK FOR THE PEACH.

BY P., DELAWARE CO., PA.

WHAT fruit grower is a stranger to disappointment and vexation? Diseases among fruit trees appear every year to become more prevalent, and often, when I have been admiring a flourishing young

tree, some little worm in secret was working its destruction; and in a few days, that which was so beautiful and green, becomes a withered stem with blackened and unsightly leaves. I have long been trying to discover stocks that were not liable to be eaten up by worms, on which to graft the peach and apple, and I flatter myself that I have at last found one adapted to the peach. Others may have made the discovery, but regarded it of too little importance to be made public.

The black or purple Apricot, (*Armeniaca dasycarpa*,) will grow from cuttings with about as much certainty as the Quince; but perhaps it will be found preferable to raise it from layers, as the stools throw out an abundance of long shoots, which strike root readily on being laid down. On rich, mellow ground it is scarcely less vigorous than the Peach, but it is much more so than the plum, and it is perhaps the best foreign stock on which the peach can be worked. It is entirely free from the peach worm that destroys both the peach and common apricot, and it has no special enemy. It is long lived, and said to be perfectly hardy at Montreal in Canada.

As a stock it buds freely, but cannot be worked so late as the peach, and will survive the mutilation of its roots and careless transplanting better than the peach, for the reason that it readily supplies itself with new roots. It never throws up suckers from the roots, and, if girdled by mice or cut off below the collar, it invariably dies.

The fruit of the *dasycarpa* ripens with some varieties of the *vulgaris*; is quite inferior to them in flavor and equally shy in bearing, and valuable only for its hardihood and strong growth, which makes it suitable for stocks.

To raise these, or indeed any other kinds of trees, from cuttings with success requires that the conditions for developing roots should be favorable. They do not, however, require bottom-heat and bell glasses, but merely a bed or plot properly prepared, and which may be used every year. I have been very successful when I spread a few loads of sand some six or eight inches deep on a low, flat piece of ground by the side of a small brook, making a bed that always keeps damp, but is never surcharged with water.

I have not had the peach growing on the *dasycarpa* for more than five years, but these look more healthy than some worked on peach stocks about the same time, but I have the *dasycarpa* flourishing on peach roots that have stood about twenty-five years, and look as if they might stand for half a century to come, while peaches budded at the same time on similar stocks have long since died.

The borer will sometimes attack the peach when budded some distance from the ground, but the

higher it is worked the more likely it is to escape; besides, the worm is more easily discovered and destroyed than when it is nearer or beneath the soil.

With black apricot stocks, I think, we might, in a degree, master the Yellows as well as the worms, but this remains to be tested. We propagate the Yellows when we work healthy scions on sickly stocks grown from seeds born in diseased trees. Nurserymen buy their seed in the market, which have been carelessly collected from all sources, and then they distribute the trees in all directions, so that we have little prospect of ever getting rid of the disease until we use stocks unmistakably healthy.

The Apple-borer has annoyed me no less than the Peach-worm. In order to protect my trees, I have carefully lapped something around their trunks near the earth, but then the rascals would get into the trees above the lapping two feet from the ground. I have tried soda-wash, but one application in a season is not sufficient to prevent the worms, though it improves the appearance of the bark. One white-washing is a better preventive, but not a sure one, for the bark scaling off in patches leaves places for the worm, and unless those who put on the wash are careful, they are apt to leave a circle around the tree close to the ground untouched by the lime just where the fly inclines to deposit her eggs.

Many hold the opinion that white washing is destructive to trees, but my experience leads me to a contrary belief. I know that if we grease the trunk of a tree all over, we kill it; and so, if we grease an egg all over, we destroy its vitality, and it will never hatch. But the egg-shell itself is porous enough to admit a sufficiency of oxygen to the embryo chick. Nor is a scale of whitewash less porous than an egg-shell. Does the living part of the stem of a tree require a circulation of air or oxygen more than the egg during incubation? If it does, then lime would benefit it by causing it to shed its moss and lichens which obstruct circulation more than thin scales of whitewash.

I prefer lime to soda because it adheres better, or not so likely to be taken off by the rains, and perhaps we might add something that would make it still more permanent. We might add something that would make it still more offensive to the worm. Salt might benefit it, but as yet I have tried no more certain way to get rid of the worms than going around with the proper implements and digging them out.

There is one thing, however, I have noticed, in looking through the orchard, two American Crab (or Crap) apple trees have stood for a number of years without being touched by the borer, while every other apple tree in their vicinity has been attacked.

Is this Crab tree (*Malus coronaria*) proof against this borer? and does it make a good stock to graft upon? If both of these questions can be answered in the affirmative, I would recommend crab stocks; but I would graft them high, say three or four feet from the ground. If there is a difficulty in getting these stocks from seed, we might resort to double-working our trees, so as to have crab stems, while the roots and tops were of common apple. This would add something to the first cost of the trees, but might be a great saving in the end.

The crab stock would have a tendency, no doubt, to dwarf the trees, and perhaps render them more prolific; but crab apples appear to run into varieties, some making much larger trees than others, and it might be desirable to choose the largest varieties for stocks. Soil and situation must make some difference in size, but the largest crab tree I ever saw was on thinnish clay land.

From a trial of one season only, I find that the Chinese pear (*Pyrus Chinesis*) may easily be grown from cuttings of six or eight distinct species of the pear that have been tried, this promises to be the freest to strike root. It is a strong grower, hardy, and is probably a large tree when fully grown; it would, I think, make stocks as cheap as the quince, and far more congenial to the pear. It forms a perfect union on the pear much better than the pear on the quince, and as it takes root freely, it is possible it would bear transplanting better than stocks of the common pear. The fruit of this tree is large, coarse, and unfit for the dessert; it may, however, have some value for cooking.

THE INDIAN OR CHINESE AZALEA: ITS INTRODUCTION, CULTIVATION, PROPAGATION AND DESCRIPTION OF THE BEST SORTS, NEW AND OLD.

BY AN OLD FLORIST, PHILADELPHIA, PA.

MR. EDITOR:—Permit me to take you and your readers back to a period of nearly fifty years, when the first Azalea indica was introduced from China into Europe. It is of the same family with the Wood Honeysuckle, and Mountain Laurel Rhododendron of this country. It received very little attention, being considered by the best growers there as a difficult plant to manage with any degree of success, and frequently received a very conspicuous part in an English hothouse. It must, however, be admitted that the common Azalea indica, with a flower of a brick-dust color, and a foliage, even in its best state, of a questionable green, was unlike our modern improvements.

Several dissertations appeared in the proceedings of the London Horticultural Society, on the best method of treatment, but no impetus was given till the intro-

duction of Azalea alba and phonicæ, over thirty years ago. London's *Gardener's Magazine* was then the text book of European gardening and culture, as the *Gardener's Monthly* is now that of the United States. The collections about Philadelphia were then in a very limited condition; but even at that period I saw several plants at Flushing, Bart-ram's garden, Landreth's and Hibbert's. None of them, however, viewed the plant as the one to rival all others for beauty of flower, profusion of bloom, and variety of color, surpassing every tribe of plants for winter decoration in the greenhouse or parlor, of 1861. From December till June, these plants, with very simple management, continue with a profusion of flowers. The Warden Case, got up by Captain Ward, of the Royal Navy, contributed greatly to the introduction of all the known varieties from Canton to England.

In about 1824, the first white and double purple Azalea reached Philadelphia, and I strongly believe that the identical plant of the white is yet to be seen in good health, in one of the private collections of our city; the original purple died some years ago. The American climate suited their constitution much better than the English climate.

Plants of Azalea indica, six feet high, and clothed with flowers and foliage from bottom to top, were frequently seen at our horticultural meetings in 1834-5. Several seedlings made their appearance, such as Nova blanc, elegans, &c. And in a few years after another lot came, and such as Copeii, Hiretii, &c.; then in 1837 came the new charms *Variegata* and *Lateritia*, brought from London by a Scotchman. From that period till now, the Azalea has had one continued progress, the English and Belgians, using all their art to out-rival each other in the production of novelties with names of Emperor and Empress, Kings and Queens, Presidents, Generals and Standards. The foundation of all these varieties were laid from the sorts introduced into England by Captain Ward, and more recently the Azalea vittata and its varieties introduced by Mr. Fortune to the London Horticultural Society's Garden, from whence they have been disseminated to all the plant-growing world, and such is the diffusion of knowledge through the English, French and German periodicals that every new article in the horticultural world finds some purchaser, many of them arriving in this country as soon as offered in Europe.

The collections of Nurserymen and private growers in the United States, embrace every valuable acquisition that has been offered in the Azalea way up to June, 1861. You must not think it presumption in me to say that there are growers and propagators of this plant amongst your readers fully equal to any in any other country; the climate being highly

favorable to the development of growth and profusion of flowers.

(To be continued in our next.)

ABOUT CUCUMBERS.

BY PHILOCUCUMBO.

MR. EDITOR:—I have no garden, and I am no botanist. I can not tell an umbrella-carrying plant, *umbellifera*, from one with legs and noses, *leg-umina-nosa*. I can not raise cabbages nor dig potatoes. Therefore it may seem clear to you that I have no business whatever with or in the *Gardener's Monthly*.

Excuse me if I correct you. If I cannot dissect flowers or raise vegetables, I can admire the former and eat the latter. Eating, Mr. Editor, is my strong point. My taste for good things is a pretty respectable one. In proof, the tasting committee of the horticultural society of the western portion of my State generally claims my unofficial services. I am ready and proud to give them, and I will add that the judgments of my highly discriminating palate have invariably met the approval of the knowing, *alias* scientific public.

Consequently, I represent the eating class of your readers. Or, are you not aware that there exists such a class of subscribers, who, anxious to eat the latest and the best novelties, take in and study your highly esteemed journal? And, by the way, don't you think vegetables ought to take equal rank in your journal with fruits? Strikes me they are a little neglected, and yet I would like to read a little more about them. I would like, in fact, to invest my dollar equally in flowers, fruits, vegetables and botany.

Now, as a representative reader I feel also called upon to contribute my mite to the good work. To-day I shall speak of cucumbers. I shall not touch on the origin, rise and progress of cucumbers, nor quote Latin, Greek, and Hebrew to show what sort of thing they were with those ancient and departed nations, nor compute the age of the cucumbrous plants, nor try to demonstrate why, as "*cowcumber*," it is allied to Zoology, nor get enraptured over its flower so yellow and its runner so fast, nor describe the monstrous and hideous insects who have declared that the cucumber vine is their world. I shall go direct to the eating part, concerning which, I last night read a passage in an old and venerable folio, called: "*The Travels, Adventures and Observations of Baron Baldrian von Knyphausen, Ambassador Extraordinary of His Serenissime Highness, the Margrave of Anspach, at the Courte of Her Brittanick Magestie Queene Anne, during his sojourn in England. Translated from the Original German Text, by Doctor Hugh Browne, LL.D., F.R.S. London, 1706.*" The Baron Baldrian,

after having several times declared himself a thorough German in patriotism, still a "*Kosmopolitan*" in matters of taste, says: "(September first.) Up by boat to Hampton to meete the Courte. Saw the Duke (Marlboro') there, and many fine ladyes. Tolerable dinner. Awfully bad Cou-combers. Barbarous way of treating the Cou-comber.

"The younge and greene thing was brought raw on the table, and the ladyes, with theyr daintie fingers, peeled them and cut them in thick slices." (Precisely as American folks do now-a-day.) Our Baron next proceeds to give his cosmopolitan recipe, which we transcribe as follows:

"Let your little woman (God bless her) peel your cucumber, and slice it as thinly as ever she can, by six o'clock of a morn, and set in ice-water in a deep plate, put salt liberally on the slices, mix them and cover the plate with another inverted one. By eight of the clock let her pour away the water, which the salt has drawn out, and repeat the exact same process over again. By ten of the clock, pour away again the water drawn by the new salt; put some more salt on, equally a sharp dose of pepper, and mix thoroughly. When the clock strikes eleven, your little woman will again pour the water off, season again with pepper and salt, add an onion or two, finely cut up, likewise add her pretty handful of parsley, also cut very finely, inundate the whole with good vinegar, and let stand an hour or so. By noon you take your dinner, eat your cucumber-salad, and thank Providence for your wife."

To which your petitioner has only two things to add: first, thank your wife, as well as Providence, and immediately after; next, never use metal spoons or forks, if you can help it, in manipulating cucumbers.

My chemical friend and commentator, after having read so far, adds sententiously:—The palatability of the cucumber's fibrous substances is only obtainable by the expulsion of its aqueous contents and the admixture of antagonistic condiments. All of which is respectfully submitted and warranted to eat well.

NOTES ON ENGLISH SOURCES--GRAPES.

BY C.

A CHEAP lean-to vinery, thirty feet long and ten feet wide, may be built for twelve pounds—about sixty dollars. (Who would be without such even for their amusement?) On the vine-borders and in the pots he (T. Rivers) uses a top-dressing of soot with the greatest advantage; it is applied over the whole surface in March and allowed to remain undisturbed during the whole summer. He has used it for three years, and generally strews it at the rate of a peck to ten square yards. It acts as an absorbant of heat and as a manure. Would not charcoal

dust with a little wood-ashes and sulph. of lime or gypsum answer as well, for all cannot procure soot to any amount here.

New grapes for vineries without fire heat, and prices sterling :

Buckland Sweetwater. 21s. Berries large, round, greenish white, sweet and juicy and very good ; valuable for setting its fruit better than Sweetwater.

Champion Hamburg. 7s 6d. Berries round, purple, like Black Hamburg, but larger.

Chasselas Vibert. 5s. Berries round, large, pale amber ; very juicy and refreshing ; ripens ten or twelve days before the Royal Muscadine ; very hardy and excellent. "This is a French seedling from the Sweetwater ; its berries are very large, and when fully ripe of a golden yellow color, with the flavor of the Royal Muscadine ; its leaves are more deeply serrated than those of its parent."

Muscat de Juliet. 5s. Berries round, purple, medium size, rich, juicy and excellent. This grape will ripen well on a wall in the South (England), and well adapted for pots.

Muscat de Sarbille. 5s. Berries round, purple, medium size ; of a peculiar rich Muscat flavor, and like the Juliet will ripen on a wall ; is hardy and well adapted for pots.

Trentham Black. 7s 6d. Berries large, round, purple, juicy and rich, with a peculiar, refreshing flavor like the May Duke Cherry ; a great bearer and will be valuable.

Duc de Malakoff and General Marmora. Two very large white kinds, the largest white known.

For vineries with fire heat :

Bowood Muscat. 10s 6d. Very large, the largest of the Muscats. Berries pear-shaped, and when ripe of a rich amber color, with a rich Muscat flavor.

PLAN OF BLOCKING-OUT FOR STOCK.

BY G. H. WHITE.

Not having seen any form for blocking-out and staking stock published, allow me to give our *modus operandi* ; thinking, perhaps, it may be of service to new beginners. Here you have it. Say

BLOCK No. 1. SECTION FIRST.

Apples set 1860.	STAKE.	BAL.	ROWS.	FEET.
R. I. Greening.....	1		20	39
Baldwin	2	BAL.	16	104 $\frac{3}{4}$
Golden Russett.....	3	"	11	67 $\frac{1}{2}$
Northern Spy.....	4	"	4	
E. Spitzenburg.....	5		2	10 $\frac{10}{12}$
White Pippin.	6			102
Wagener.	7	BAL.	4	

SECTION SECOND.

Pears on Quince, budded 1860.

In this way continue, having as many sections as

there may be *kinds* of stock in the block. Number the *front* of the stake having the name of the variety on the opposite side. When a variety commences down in a row, place a stake at the commencement, with a like number thereon, which tells us that in *that* row the variety begins. Block books should be paged and indexed for convenience.

INJURIOUS INSECTS.

BY S. S. RATHVON.

(Continued from page 239.)



Graptodera chalybea. Illig. Fig. 6. Length, about three-twentieths of an inch ; form, oblong oval ; color, variable above from a dark purple, violet, Prussian-blue, greenish blue, and deep green to a bright green. The hinder part of the thorax is marked with a deep, transverse furrow ; the under side of the body is a deep greenish blue, and the antennæ and the feet are dull black. The principal points of difference between this insect and *Gastrophysa cyanea*, which it so nearly resembles at an imperfect view, are these : its hind thighs are more developed, making it a *leaper*, rather than a *flyer* (fig. 7)—the transverse furrow near the posterior margin of the thorax (fig. 8 *a* and *b*)—the less thickened antennæ (fig. 9)—and its whole form being less oval. The former insect, when surprised, leaps and falls to the earth, where it hides, if it does not hide itself beneath a leaf without leaping ; whereas, the latter lets go its hold and falls to the earth at the least possible interruption. *Graptodera* belongs to the "Flea-beetles," technically called the *HALTICADA* ; whereas, *Gastrophysa* belongs to the true *chrysomelans*. Fig. 10 is the larva, which feeds upon the the grape leaves, the present insect feeding upon the tender buds from early in the spring until midsummer, and even later. The female commences laying her eggs about the middle of May, and the larvæ of the first brood are matured about the middle of June. This may be advanced or retarded according as the

weather is favorable or the contrary. The larvæ which I obtained at West Chester on the 12th of June, were nearly matured, and these, together with others which I obtained at Lancaster, were put in a wooden box with a glass lid, and about two inches of earth at the bottom. Grape leaves were placed in the box for them to feed upon, which were from time to time replenished as they became dry. On the 22d of June, some of these larvæ commenced going into the ground, and by the twenty-fifth they all had disappeared beneath the earth. Upon subsequent examination, I found that they form a small, oblong cavity of earth, which seems to be hardened—no doubt hardened by a mucus voided by the insect—and tolerably smooth on the inside, in which it undergoes its transformation to the perfect state. I could not discover that it formed a distinct pupa case, but on the contrary, it seemed to be confined in its cavity, like a young bee or wasp in its cell, which, when broken open reveals the naked insect. In about two weeks after the larvæ go into the ground they are ready to come forth a perfect beetle as described above, and go mechanically and instinctively through the same course as their progenitors. These larvæ do not eat holes *through* the leaves, or commence at the margin and eat *all* as they go, they only eat off the upper or lower surface—usually the latter—causing it to wilt and turn inward, and where they occur in great numbers they leave nothing but the shrivelled nervures remaining. When we reflect that the mature insect eats the buds and tender ends of the grape vines and afterwards the larva eats the leaves, we may form some idea of its destructive character. Dr. Harris, in his work on "Injurious Insects," page 115, says that Mr. David Thomas gave a description of these insects and their larva, which was published in the sixth volume of *Silliman's Journal*. "Mr. Thomas found the vine leaves invested by a small, smooth, chestnut-colored worm, and suspecting this to be the larva of this destructive beetle, he bred them in a tumbler with a little earth in the bottom, and in a fortnight after burying themselves in the earth he found some beetles in the tumbler, and hence, there is no doubt the former was the larva of these beetles." There must be some mistake here—these must have been the larva of some other species than the one under consideration. The earth in which my insects underwent their last transformations was gathered from the street and could not have been impregnated with other insect larvæ; moreover, I anticipated mine, and took most of them out of the earth myself before they were quite ready to come forth themselves. There are, however, six species of these insects catalogued besides fourteen species of *Ænonychia* and eighteen species of *Disomycha*, all of which

are nearly allied in form and habits to the former, and therefore Mr. Thomas' insect may have been one of these. The larva of *Graptochrysa chalybea*, is not "a smooth, chestnut-colored worm." It is, when mature, about a quarter or three-eighths of an inch in length, and of a dull black or bistre brown color, except between the segments and underneath, where it is a dusky whitish; the whole body is tubercular or rough, and from each tubercle diverges two or three short, stiff hairs; it has six short, blackish feet, and two rows of tubercles or warts on the abdomen below, which bear some resemblance to the prolegs of *Lepidopterous* larvæ, and at a superficial view they would be taken for such. I have thought it necessary to give these details of this insect, because there does not seem to have been much published heretofore in reference to it, but more especially because it seems to have been very destructive at various periods in times past to the grape vine, and from its redundancy in various localities the present season, it may become so again.

[To be continued.]

DISEASES IN THE BUTTER PEAR.

BY "FRIEND," PHILADELPHIA.

I HAVE in my garden a specimen of a White Doyenne or Butter Pear tree, which I have several times threatened to either cut down or re-graft. I have kept it where it is principally in hopes that I might discover some cause for the cracking that every year attends it. I have tried, in former years, lime-water on the foliage, and guano-water and soap-suds at the roots, but beyond this I have done nothing. But I have never got any good fruit from it. Six years ago, the spot where it is growing, was a vegetable garden, but since then the spot has been included in my ornamental grounds, and on one side of it is now a lawn, and on the other side is a carriage road. For the two past springs I intended to graft it with Bartlett's, but it has been neglected both years, until the season got too late. Judge of my surprise, however, to have, this year, one of the best and handsomest crops I have ever seen of the kind. A few on the tree are knotty and scrubby, and yet a few cracked and spotted with black, but the majority are as healthy and clear in skin as a pear can well be. They are not quite ripe yet, but when they are, I propose to send you a few, if they should chance to be a rarity with you. I notice that the scrubby ones are mostly confined to the north side of the tree, and the good ones on the south and west, which is partially shaded by trees that have grown up since the pear tree was planted. Can this have any thing to do with the returning health? It is also worthy of note that wherever the pears are healthy the growth is more luxuriant than I have even noticed the tree

to bear before. And I have even noticed that a poor weak growth is usually associated with cracked and knotty fruit.

You will excuse me for referring to an opinion that I remember you to have given in the *Gardener's Monthly*, that the disease was caused by a want of potash in the soil. As no application of any kind, potash or otherwise, has been given to the tree, its disease could scarcely have resulted from the want of it.

[Our friend can send along the pears. We shall appreciate both them and the kindness that prompted the gift. As to the potash, we have certainly said that we knew a cultivator who always had cracked Butter Pears, and after applying a dressing of potash to his orchard, always had healthy fruit. But we have never attributed the potash application as a *direct*, but only a *secondary* cause. To make our meaning plain, we do not suppose that cracking is the result of a want of potash, but the result of *ill-health*. Cold winters, bad stocks, or a hundred things may have produced this state of ill-health, and as many things may produce a re-action. If the relation between diseases and their remedies were always direct, there could be no failures in cures, whether in the animal or vegetable worlds, but every thing would act as with mathematical precision. But as the relation is but secondary, and only act by influencing healthy vital action, which is in turn to act on the disease, other things besides potash may as easily cure the cracking, if it has any bearing on general health.

Our correspondant will know the old saying that, "what is one man's meat is another one's poison;" not that there is no essential difference between meat and poison, but because the action of each depends on the state of each person's system. So, with trees.—ED.]

REMARKS ON THE GENUS CRINUM.

BY D. BARKER, HARTFORD, CONN.

THE greater part of this beautiful genus being natives of hot countries, require the temperature of the stove to grow them with success, with a liberal supply of water during the summer months; but during winter the quantity of moisture should be very much diminished, or many of the bulbs will perish. We have found, however, those with columnar stems require a good supply at all times, as the habit of their foliage is decidedly perennial; but it is by far the safer plan during the winter months to rather under-water than over-water, more particularly those kinds of slender growth.

The compost we have found best for crinum is a good loam from an old cow pasture, where it can be found of a friable texture, without any other mixture whatever. We consider peat, leaf-mould

and rotten manure, prejudicial to the growth of the crinum than otherwise. Plenty of drainage in the pot is very essential, in order that the plants may, during their period of growth, receive the proper amount of fresh water requisite to the proper development of their foliage and flowers. The size of the pot must depend on the habit of the bulbs, which those acquainted with the habit of the genus will understand. To those who are not, we would advise for good bulbs of procerum, cruentum, rigidum, erubescens, and its several varieties, placed in pots varying from ten to sixteen inches over, more or less, according to the strength of the bulb. For full sized bulbs of Americanum, Loddigesianum, yeylanicum and broussonetianum, we have used pots from eighteen to twenty inches in diameter. It is a fixed fact, that to bloom any of the genus well, they must have plenty of pot room. Whenever it is observed that the young leaves of any of the crinums turn yellow, or commence to decay, they must be allowed a short period of rest. Too much moisture in too low a temperature are often the causes of such an effect. In potting, the whole of the neck of the bulb must be kept above the soil, and all the obsolete covering, which are the remains of the decayed foliage, should be stripped off, leaving the bulb and stem clean and free from any decaying substance.

We have found, with few exceptions, the whole genus to succeed best when plunged up to the rims of the pots in boxes of sand, placed over the hot-water pipes, and during the hottest part of the year it is very essential to inundate the boxes, but not to keep them flooded. Some of the species at the approach of winter will require the pots to be turned on their sides, and be kept quite dry until they show signs of growth,—when all the earth may be carefully shaken from the bulb, pulling off all the decayed coats, without injuring the roots. Repot in soil as above recommended, subjecting them to the same treatment.

A SUCCESSFUL PLANTING.

BY G. H. WHITE, COLDWATER, MICHIGAN.

HAVING had excellent *luck*, as one would say, in putting out maples and evergreens, I must relate it by the way of encouragement to others:

The first week in April, 1860, we set out in front and on one side of our farm (in the road) four hundred and seventy-two maple trees. First plowed the ground deep,—had men digging up trees while others were setting out,—cut them all to ten feet in height, covering the top with grafting wax; holes were dug large, that the trees might not only *live*, but *grow*. Mulched them with tan-bark,—then all the surplus stone,—so much in the way in the road were put around them,—after which they were

staked, and now we are rewarded by seeing all but four of them alive and doing well.

The second week after we set four hundred and fifty Norway Spruces, eight by sixteen feet, put up through the centre of our grounds, from which alleys lead each way, ten feet in width, dividing the farm into fourteen blocks. These trees were from the well-known firm of Smith & Hanchett, Syracuse, N. Y. They average from three to seven feet in height; all but twelve are now alive and growing finely.

MISCELLANEOUS NOTES.

BY W. R. P., FLUSHING, N. Y.

I MAKE the following notes in response to queries in various periodicals.

Double flowers are produced by nature as well as by art. Witness,—Double *Thalictrum anemonoides*, Double *Rudbeckia hirta*, Double *Rosa Pennsylvanica*, Double *Trillium*, and other species all found in a state of nature.(1).

Grape vines can be grown on level Missouri prairie land, provided the land be so underdrained, that the saturation of the soil during winter is thereby prevented. The Concord, Holmes, Clinton, Hartford Prolific, Ariadne, August Coral, Early Amber, Ohio Prolific, Pond's Seedling, Braddock, Ramsdell, Troy Hamburg, Venango, Warren's Seedling and Monticelli are some of the most hardy varieties, and doubtless they would all succeed in Missouri and Illinois.

Strawberries—proportion of staminate to pistillate. One row of the former to ten of the latter is all sufficient, but there must be a judicious selection of a staminate that blooms at the same period as the pistillate, its companion. The Hovey cannot yield a full crop when the Early Scarlet is its companion, as the latter blossoms too early. Such injudicious selections are the cause of reduced crops.

[1. Mr. Prince's note will be interesting to the young student of vegetable physiology and morphology. Though double flowers are usually considered as the result of cultivation and the gardener's art, it is questionable whether we have not rather to thank unassisted nature for most of them. In addition to those named by Mr. Prince, the Double *Convolvulus panduratus* was found wild, we believe, in Georgia, by William Bartram, and Mr. Meehan once found a double *Saxifraga Virginensis* on the hills of the Wissahicon, in Pennsylvania. Most of the double flowers of our borders are not of such often raised from seed, and it is therefore probable that they were first found in a wild state. *Spiraea filipendula*, *Campanula persicifolia*, and others, for example. All attempts to cultivate the common *Zinnia* into double ones, Vilmorin tells us, failed; but last season,

double varieties from their native country were introduced.—Ed.]

GRAPE CROP IN CENTRAL MISSOURI.

BY E. A. RIEHL, BOONEVILLE, MO.

THE grape crop promises to be an entire failure here this year. About two weeks ago the weather was pretty hot; since it has rained much,—so much that it is decidedly *too moist* for grapes, and nearly one-half are already affected by the rot. There is no use talking, we must adopt some different mode of culture, if we would succeed in growing the grape successfully in this country. I think the grape can be grown with uniform success, but not when treated as now. I shall at some future time furnish an article on this subject if it will be accepted. Other fruit is splendid, and plenty of it; apples, pears, peaches, plums, apricots, &c., we have as many as the trees can mature. This promises to be the best fruit year in the West that we have had for many years.

[Shall be glad to hear from you as proposed.—Ed.]

PRESERVATION OF ICE.

BY J. C. B.

AN article in your last number on ventilating ice-houses, leads me to present my views of the principle on which the preservation of ice is based; for, although the writer of that article is undoubtedly right in his facts, he omits, in my estimation, the chief element of the utility of ventilation. I say advisedly, its utility, for ample experience has shown the absolute necessity of ventilation for the more perfect preservation of ice. Experience has elicited three points of the first importance in constructing an ice-house: 1. An imperfect conductor of heat of moderate thickness to surround the ice. 2. Provision for drawing off the water of the melted ice. 3. Ventilation. Can we refer these requisites to the operation of a single principle?

When ice melts, it absorbs 140° Fahr. of heat, and this would tend to preserve the surrounding ice from melting, were it not that the warmth of the summer air, penetrating a mass of ice, or even the average summer temperature of the soil, more than compensates for the cold produced, and the melting continues. The heat of liquidity, therefore, although retarding the melting of ice, is insufficient for its preservation.

When water passes into the form of vapor, whether vaporised by heat in the form of steam, or rising at common temperature as an insensible vapor, it absorbs 1000° Fahr. of heat from surrounding bodies. In the latter case it passes off with the air, and if the supply of fresh air be constant or continuous, it is

easy to perceive that the cooling influence of evaporation will be very great. That solid ice itself rises in vapor below 32° Fahr., may be observed in winter by the gradual disappearance of thin layers of ice on the pavement or steps in front of a dwelling. Much more rapidly does ice or water evaporate at 32°, and water still more readily above 32° in a current of dry air, or air not already saturated with moisture. Under such conditions, the amount of heat-absorption, or cooling influence of evaporation, is sufficient to retain ice in the solid form.

A few facts may serve to illustrate the cooling effect of evaporation. At the temperature of 50°, carbonic acid can only be maintained in the liquid state, under a pressure of five hundred and twenty pounds per square inch, or 34½ atmospheres; whereas, solid carbonic acid quietly fumes away in the open air, the heat carried off by the vapor sufficing to keep the remaining acid in its solid condition, even at summer temperatures.

The alcarazas or porous earthen jars, employed in the tropics for cooling the water they contain, act on the same principle; for the water transudes through the pores to the outer surface of the jar, and by its evaporation lowers the temperature of the remaining water by many degrees.

If a piece of ice be wrapped in a single thickness of flannel, and exposed to a current of air, not surcharged with moisture, the flannel will freeze fast to the ice, proving the surface to be below 32° Fahr., and little or no water will form. The flannel allows the little water that first forms to enter into its numberless pores, where it evaporates from an almost endless surface of woollen fibres. Cotton and linen do not answer the purpose as well, because capillary action fills the spaces between the fibres with water, and evaporation only takes place from the moderate surface of the water. The cooling influence of the flannel wrapping on the lump of ice, may be inferred from the fact, that as a little ice liquifies the liquid evaporates, so that the heat both of liquidity and of vaporization are absorbed, amounting to 1140° Fahr.

Let us apply the principle of evaporation to an ice-house, of which the lump of ice in flannel is a perfect type. Experience has shown the advantage of surrounding ice with an imperfect conductor of heat, such as shavings, saw-dust, charcoal, and even pine boards. It has likewise shown that only a moderate thickness of these is necessary, just as a single thickness will, in a favorable position, actually keep a lump of ice dry. Now, if they were used because of their non-conducting property, a considerable thickness would be required; in fact, many feet, and the greater the thickness, the more complete the preservation of ice. Since this condition of thick-

ness is proved by fact to be unnecessary, the non-conducting property is not the cause of the preservation of ice, if, indeed, it be of any influence whatever. The same conclusion may be drawn from the depth in earth to which the outer temperatures gradually penetrate, whether winter or summer, and yet earth is a very poor conductor of heat.

All the substances employed around ice are porous, admitting the passage of air through them, or into their pores, and these pores present an indefinitely extended surface. A portion of water enters the pores without choking them, and thus an immense surface is offered for evaporation, which, be it remembered, only occurs from a surface. The entrance of dry air into the moist pores and its exit, charged with the vapor of water, carries off the 1000° Fahr. of latent vapor-heat; and by thus cooling the ice, prevents its rapid melting. Hence the advantage of ventilation for preserving ice; for when the door of an ice-house is kept closed, the confined air becomes saturated with moisture, and cannot escape, evaporation ceases, and the external warmth, entering by radiation and conduction, is expended in freely melting the ice, in spite, too, of the non-conducting coverings and surroundings. Hence, too, the excellent preservation of ice, alluded to in your last number, in a board shanty, which was open all around, and therefore admitted air all around; it was a lump of ice from Brobdignag, wrapped in pine boards for flannel.

Experience has shown the necessity of draining off the water, which will be produced from the imperfections of the best ice-houses. Immerse our flanneled lump of ice in water, and it will soon melt, because evaporation only takes place from the small surface of the water; but put it on slats, so that dry air can pass around it, and the amount of evaporation from an endless surface keeps the lump almost dry. So, if the lower tier in an ice-house be in water, we have only the cooling effect of melting ice, 140° Fahr. and in addition evaporation from a surface of water, equal only to the area of the house, both which are far outweighed by the penetrating warmth from without. The ice, therefore, continues to melt towards the bottom of the house; but when the water is drained off, a circulation of air (supposing the house to be ventilated) evaporates water from the enormously extended porous surface of the moist shavings, &c. The whole cooling effect then becomes: 1. The very small amount of heat absorbed by the melting ice. 2. The large amount removed in the continuous escape of moist air. This heat being absorbed, rendered latent, is abstracted from the ice and its adjacents, and melting is greatly protracted.

We should, however, guard against the too free

admission of air. If shavings, &c., were put very loosely into the sides of an ice-house, the free circulation of air would let in too much summer heat, and really present less surface, because less pores. On the other hand, if the sides were built of a non-porous substance, evaporation could not take place on them, and the exterior warmth not to be excluded, would melt the ice freely. A porous, absorbent material, tolerably well packed, offers the most favorable condition for the sides of an ice-house, by offering the largest evaporating surface. The top covering cannot, of course, be packed; the bottom porous layers become so from the weight of superincumbent ice. If the house is constructed with stone walls, a layer of porous material must be put between them and the ice, and provision made for the air to pass to the bottom of the structure.

Having thus presented the results of my observation and reflection, I must bring my long article to a conclusion, for which last result I may, doubtless, presume upon the thanks of your readers, who generally prefer hot-houses to ice-houses. I believe, however, that I have reduced the three great results of experience in the construction of an ice-house to one principle—evaporation.

A CHAPTER ON GRAPE-LOGY.

BY J. B. GARBER.

MR. EDITOR:—Any "news" on "Hardy Grapes" is peculiarly attractive to me; so, when our favorite *Monthly* for August came to hand, I, as usual, turned to the contents to see if there was a chapter on Grape-ology! and sure enough I was gratified to find Mr. Woodward giving us valuable news on "indigenous grapes." All right. Mr. W. will probably add some desirable varieties to our already extensive list. The more the better; "try all and hold fast to those that are good;" the inferior varieties will find their regular level soon enough. Strange, though, that Mr. W. should call the "Delaware a seedling from our native grapes!" I would like to know his reasons for that (to me strange) opinion. Can he tell us from what *species* of our natives it originated? Is it a *labrusca*, *cordifolia*, *riparia*, or what?

It is now clearly ascertained that the original plant of Delaware is still alive and bearing fruit. It is now in the garden of Mr. Provost, in Pottstown, transplanted from Frenchtown in New Jersey, by its present owner, a son of old Mr. Provost, and who still has the original vine in good condition—now over sixty years old! If it were a seedling from a native grape, then the question naturally arises, whence came that seed? Was it brought by birds from some distant locality? Did it drop from

the clouds?—or, or whence came it? Is it not far more likely that some German emigrant brought it in his breeches-pocket from the "Fatherland?"

Mr. Woodward also refers to Professor Ravenal's theory, "That the seeds of our native grapes produce male and female plants, and that seedlings from foreign or *Vitis vinifera* are all female," or, perhaps, more properly, hermaphrodite—male and female on the same plant.

My object, more particularly, in writing, is to overhaul your own comments on Mr. W.'s article. In your remarks, trying to disprove a theory (yet to be proved,) and "to prevent the error," as you are pleased to call it—"from becoming widely disseminated." I was greatly amused at your "arguing all round the bush" without once touching on the main question—you signally failed in refuting Prof. Ravenal's theory. You say, "it is well known that the petals of a flower, and its stamens, are the most easily affected by external causes, of any part of a plant, and that they are so affected, changed and altered, is a fact of every-day occurrence. Sometimes parts become abortive; at others, excessively developed," &c. You refer to double flowers; to the Green Rose, to the Strawberry, &c., and to the Cannon Hall Muscat Grape requiring "artificial impregnation under glass, as its own flower is deficient in pollen." Granted, every word you say! But, my dear sir, your arguments do not even touch Prof. Ravenal's theory. That the foreign grape produces barren or imperfect flowers, nobody, I presume, will deny. All your proof in the matter is "that foreign grape seedlings do often have imperfect (mind, imperfect) flowers!" You don't say male flowers. Now, let me just here ask you a simple question, friend Meehan:—Did you ever find a seedling of a foreign grape have true *bona fide* male flowers? Not abortive, barren, imperfect, &c.; but real, genuine, male flowers, without a stigma or vestige of an embryo grape in the bottom of the tiny flower, lacking the female organ?

I was called to examine a barren grape vine some six or eight weeks since, by a mutual friend in Lancaster—a good botanist, entomologist, &c., indeed, well informed on all subjects. He was trying all manner of experiments to make it bear fruit. The plant was in profuse flower at the time. On an examination of the flowers, I found there was no stigma, no embryo grape in the flower. I told him at once that the plant was a male, and all his "experimenting," to the end of the world, would not produce him a berry! His only plan was to graft it with some other variety, but I regret to say, I could not convince him of his error.

Thus, you see, we "ignoramuses" can occasionally have a good laugh at our "scientific savans,"

in return for like favors. Your "abortive," "imperfect," or excessively-developed flowers, or any other terms that can be "scared-up," will not correct the *supposed* error which you wish to guard the public against. So far as Prof. R.'s theory is concerned—that our natives produce both male and female plants from the seed, and the foreign *all* female—no "dusting of pollen" on one of these male plants will bring fruit, and no "forcing," "starving," or other "artificial stimulus" either, "nix cum rouse." As to the foreign grape producing all bearing plants from seeds, I am not informed, as my own experiments in that line have all resulted in failure. I have raised seedlings from many foreign varieties—raisins, Malaga jar grape, Hamburgs, Muscats, Frontignacs, Chasselas, Sweetwater, El Paso, California Mission grape, &c. I could rarely get them to live beyond the first year. Occasionally one would survive, only to be cut down by mildew the second or third year. I never could succeed in getting a single foreign seedling to show flowers!

I have also raised seedlings of our native grapes from almost every section of our country. I have always had a portion of males, or barren plants; sometimes one-half, more or less. As soon as the tiny blossom opens, I examine if there is an embryo grape or stigma in the flower; if not, then I know it to be a male, and the plant is at once cut down, or grafted. My plan of raising seedlings is to plant the seed in pots kept in the greenhouse over winter, then late in spring plant them out in the open ground; protect by covering in winter while small, &c. I have also, as a matter of course, raised many seedlings of the wonderful Delaware. These act very much like their foreign cousins. I have now only five or six promising plants of this variety from many hundreds of seedlings; two or three may show their inflorescence by another year. I have sent seeds of Delaware to many friends in various sections, including Utah, California and Oregon, and all from whom I have heard on the subject, say "they can do nothing with them." Even on Kelley's Island, Ohio, that justly celebrated grape locality, Delaware seedlings "mildew," and won't grow.

Last spring a year, I gave a pot full of Delaware seedlings—over a hundred—to a friend in Columbia, who is a careful gardener. A few weeks since, I inquired of him, "How are the Delaware seedling grapes coming on?" "Why, oh yes, I recollect. Why I lost every one of them; they would *not* grow, and they *would* die!" Are not such facts pretty conclusive evidence that the Delaware grape is *not* "aboriginal" to America?

If "stamens are transformed into petals," then petals may be transformed into leaves, leaves into branches, &c. All is "transformation," and we

will not know where we stand.

Do tell me, friend M., if *stigmas* also may, under any circumstances, be transformed into stamens, or males into females, and *vice versa*.

[Mr. Garber's questions are more easily asked than answered. He is evidently ignorant of the difficulty the botanist experiences the moment he comes within the line of cultivation. He might as well ask Mr. Woodward what species the Fuchsia *Venus de Medici* of our gardens belongs to. A gardener acquainted with its origin might answer that it was intermediate between Fuchsia *fulgens* and *F. longiflora*; but it would puzzle a botanist to know that fact by any scientific rules. So with the Delaware Grape. Science is equally at a loss to decide to which species to refer it, though the balance of characters would lead most of them to consider it as a variety of some American species. Mr. Garber does not so consider it, and he is entitled to his own opinion—for it is nothing more than an opinion—expressed in the term he himself employs, that it is "far more likely" to be of the foreign breed. We do not see the wisdom of discussing over and over again more likelies which depend for their force on the state of each reader's judgment as to the value of evidence. When Mr. Garber can give us any *facts* respecting the original seedling vine, we shall, with pleasure, publish them.

The most valuable part of the article is Mr. Garber's account of his experiments with seedlings, which we publish with pleasure. On these subjects he is evidently more at home than in the questions of vegetable transformations; which, until he exhibits a better acquaintance with what is now known as the science of morphology, we would prefer not to discuss with him.

As to laughing at "ignoramuses," the record of the *Gardener's Monthly* shows that that is not our sin. The true searcher after truth feels that he knows too little himself to afford to laugh at the ignorance or blunders of others.—Ed.]

DISEASE OF THE QUINCE STOCK.—We have observed what appears to be a new disease affecting the dwarf pear.

The quince root of the dwarf pear dies of this disease, and, as a necessary consequence, the trees die also. The injury appears to have been done in winter; but in many instances the pear has opened its leaves and made some growth before any obvious indications have appeared. It is readily distinguished from fire-blight, in affecting the whole tree at once, and not limb by limb as in the fire-blight, and the leaves only wither and turn brown, instead of black, as in the last-named disease.—Country Gentleman.

The Gardener's Monthly.

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✍ All Communications for the Editor should be addressed, "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY, Box 406 Philadelphia."

✍ Persons sending two new Subscribers for 1861 in addition to their own, with \$3.00 can receive a copy of our First Volume, (1859) free. All persons who have paid their subscriptions for 1861 by sending two new Subscribers and \$2.00 can receive a copy of the same.

LAWNS--THEIR FIRST YEAR'S MANAGEMENT.

SHOULD lawns be mowed often the first season of seeding down? The question is often asked. Our experience is against the practice, but so many good gardeners recommend it, that it will serve a useful purpose to bring the subject prominently forward.

We need not here descant on the importance of proper lawn management. The beauty of English lawns is proverbial; and the highest aim of our gardening is to have lawns like them. Our hot and dry climate is a difficulty of great magnitude, and we have to pursue a different course of practice from that which they follow if we would invite comparison with them. It does not therefore follow that what they do will, in all cases, serve us; and so the very common argument "the English mow their new-sown lawns frequently the first year," need not be considered as a thing of course for us.

It is certain that they do mow frequently and get good lawns, but we are inclined to think this result owing rather to the favoring conditions of climate. They would probably get as good or better lawns without mowing. We have reason, at any rate, to assume that these good lawns are in spite of the practice.

So far as our American climate is concerned, we are, at any rate, bound to say, that we never saw a good lawn follow close mowing the first season, and that we firmly believe most failures arise from the too frequent use of the scythe. It is very common to see a lawn green before mowing in August, become quite brown, and the grass die completely out in patches after being cut. The usual remark is that it was "cut too close." This answer grants half our argument. We would go further, and say it should not have been cut at all.

Not only does practice show close-cutting when young to be an injury, but science explains why it should be so. In order that our lawns should remain green through our long summer drouths, it is essen-

tial that we do all in our power to induce the grass-roots to descend deep beneath the surface. This is not necessary in the moist English climate. Here it is, and we do it by deeply trenching or subsoiling the ground, and burying rich manure as far as possible beneath the surface. When the top dries out, the subsoil thus can part with moisture from its reserves, and besides this the roots are encouraged to go as low as possible. But mowing the young tops prevents not only the descent, but the actual formation of roots.

The roots of the most stubborn weeds, even the Canada thistle, can be totally destroyed by cutting off the foliage occasionally through the season. The effect is the same on grass. All taken from the top when growing is so much detracted from the roots. No vegetable species is an exception to this law.

It should, therefore, be an object to allow the roots of lawn grass to go as deeply as possible the first year, and this depth will be just in proportion to the unfrequency of the mowing. After the sod has once been well formed, mowing may be frequent; but in all cases the first spring mowing should be very early, so as to induce a young growth near the surface, as if it be left long before the first cutting, and the lower leaves yet yellow and sickly, when the top is mowed off the bottom will scarcely recover, in hot weather not at all; and when once every bit of green foliage is lost, the grass root will die as certainly as its blades have done.

We would let a lawn the first year after seeding grow to its full length, cutting it only once, or even suffering the crop to rot on the ground. The only care we would give would be to carefully hand-weed it of the coarser growths; and this on no account or at any cost would we neglect.

AMMONIA AND VEGETATION.

WE have before us two essays which afford much food for thought to practical men. One is a sketch from a French magazine, *Annales des Sciences Naturelles*, published in 1858, containing a paper by the celebrated M. Boussingault, on the influence which ammonia and its nitrates exert upon the production of vegetable matter, and the other a pamphlet entitled—"On the Source of the Nitrogen of Vegetation." By Drs. Lawes, J. H. Gilbert, and Evan Pugh. Extracted from the Proceedings of the Royal Society of London for 1860.

The relation of ammonia to vegetation and the matters connected therewith, are ones of great importance to the cultivator. In their bearing particularly on the subject of surface manuring, and of burying manure in the soil, a clear understanding

would give much more confidence to the parties engaged in the several practices and discussion thereof. It is not enough to point to results and say, "Behold, I get as good crops from the manure I now merely spread on the surface, as I did from double the quantity I ploughed into the soil." The scientific cultivator has the right to ask the reason why; and until then to say, "When we pass through a field of newly spread manure, and smell the escaping ammonia, by so much as we know escapes, by so much do we know the manure has lost in value." As this reasoning is sound, how can the beneficial results of surface manuring, accompanied, as it must be, by loss of ammonia, be accounted for? Such works as these now before us, tend so far to explain the apparent enigma.

It was at one time supposed by a class of scientific men, that plants had the power of feeding on the nitrogen, of which the atmosphere is in part composed, and that some of the oxygen the plant exhaled from the surface of the leaf was part of this rejected air, the balance being from decomposed carbonic acid. Another class contends plants have no such power; but that all assimilable nitrogen must be presented in the form of ammonia or some of its nitrates.

We have never been able to understand why a plant should not have the power to use the nitrogen of the air, as it passes through its system, as well as to have first to decompose ammonia in order to get at the necessary element. If it has not the power, it may be a wise provision of nature, that not only man and animal beings generally, should have to get their "bread by the sweat of their brow," but that the same law pervades every atom of life, vegetable or animal, so that even the vegetable cell should be doomed to exercise its vital force on the decomposition of ammonia in order to gain its "bread," instead of being allowed lazily to lie with its mouth open, inertly absorbing nitrogen quietly floating by it. However, be this as it may, Boussingault shows that free nitrogen is not used by the plant, and that all found in its structure is derived from compounds.

In one of his experiments, he employed the sunflower, and sowed the seed in powdered brick, watering it with pure distilled water. In three months, the plants had gained a vegetation of 0.392 grammes when dried, the carbon they had acquired from the decomposition of the carbonic acid of the air in that time was 0.114 grammes, and the nitrogen only 0.0025, scarcely, in fact, perceptible. Though in dire necessity, and suffering from the "pangs" of want for this essential element, and with the air passing through its system composed of it, in a free

state, yet it could not or did not touch it. One would think this simple experiment conclusive.

So small a mass of vegetable matter in such a period of time showed that some other elements of fertility were wanting. So he applied phosphates of lime and other minerals, alkaline salts, carbonates, and silicious matters, but with no better results than if they were not there, for, from seeds weighing 0.107 grammes, the dried vegetable matter, after three months' growth, resulted in only 0.498 grammes, of which, only 0.0027 grammes of nitrogen were found, or about the same as in the other experiment.

Failing, though, with the free nitrogen of the atmosphere, to derive benefit from all other fertilizers, he added nitrogen in its compound form, and with the most astonishing results. From seeds weighing as above, 0.107, he obtained in the same time, 21.248 grammes by weight, of which 1.1666 were of nitrogen. Thus, he had proved first, that nitrogen can only be used by a plant when presented as a compound; and secondly, that growth was unimportant without, and very great with it.

The essay of the other three gentlemen takes up the subject where Boussingault seems to leave it, and goes to consider the amount of nitrogen yielded by different crops over a given area of land, and of the relation of these to certain measured or known sources of it. As the pamphlet is not a long one, and the subject is concisely treated and clearly expressed, we have commenced re-printing it in our last, and continued it in another column. It will be seen that with the numerous natural sources of combined or assimilable nitrogen at the command of vegetation, a very small proportion of the ammonia contained in stable manure is wanted by the plant, as a general rule, and only in exceptional cases of great natural poverty, and that the loss by evaporation is not one that will be readily missed by the plant under such circumstances. The oxidation of the other matters in the manure, which surface-manuring affords so superior a means of effecting, is evidently a much greater gain to the cultivator.

PARTIZANS IN HORTICULTURE.

WHEN we hear parties assert that such or such a variety is absolutely worthless, or of the highest excellence, and when our own experience opposes such assertions, we do not imagine that they are ignorant, prejudiced, or actuated by motives of selfish interest in what they say. In fact, we have usually found, on inquiry, that they were perfectly honest in their opinions, and that the facts warranted what they said. In some instances of nurserymen, we have found parties with a large stock of a variety

for sale, and yet honestly condemning it, and recommending their own customers not to buy them.

We make these remarks because it is not uncommon to see a sort of clan-ship, or party-feeling, in favor of, or in opposition to some varieties of fruits, and a disposition very prevalent to doubt the honor of those whose experience may seem opposed to that of others. We have been careful not to admit such reflections in our columns. Though we pass freely the results of individual experience for or against any variety whatever, we have frequently taken the liberty of expunging from such valued articles, any remarks undervaluing the experience of others, which many writers are inadvertently liable to make in hurried communications. Soil, locality, and culture are often more than sufficient to account for the most diverse results, and should lead us all to hesitate before we unreservedly condemn any variety on our own experience alone.

A particular case in point is the Allen Raspberry. Our pages teem with the most unqualified praise of this fruit on the part of some growers, while others as freely universally condemn it, and in our personal experience we know of cases where the warm advocacy of and opposition to this fruit has engendered bad feeling and ill will.

Recently, we called on a party noted for his opposition to the Allen, at his request, to see his bed. As he stated, it was with him totally unproductive. Shoots came up and were allowed to grow by the million, and thick as grain in a wheat field. The soil in which they were growing was rather dry and thin, and most of the flowers had "gone blind." Occasionally a perfect berry might be seen, and here and there a fruit comprising a single pip or so; but the whole was a complete failure, undoubtedly.

We were narrating our experience to a neighbor, (we may as well name him, for we are sure he will not object,) Mr. James Gleason, of Mount Airy, and he replied by inviting us up to see his Allen. We went. He had half a dozen popular kinds besides, including the Hornet amongst them, but the Allen beat them all,—a long way surpassed them,—not in one, but every quality. There was double,—we use the word advisedly,—double the quantity of fruit,—double the strength of stem, and the vigor and general health of the plants superior to all, and the quality in many respects beyond any others. The soil was not wet, but it was heavy; had been deeply trenched, and the situation was low. Suckers were not there in legions, because the plants were well cultivated between the rows, and suckers not wanted were received as weeds, which they legitimately were, and treated accordingly. An "inexpert" would probably have pronounced the plants in one of the cases spurious,

but we were not to be deceived in that way, and could not help feeling that when treated as Gleason's were, and as any other one might treat it, the Allen was one of the best of raspberries, and its introducer deserving the best thanks of the community. We might point to other fruits, but this one instance, so well known, and so ably handled as it has been by other parties, will serve our purpose. We wish to guard horticulture from the danger of partizanship, and to keep before the reader's mind the fact, that soil, climate, culture and local circumstances, have so much to do with the character of fruits, that men may honestly differ on the most opposite extremes, and be frequently both right for all, and give the fruit every thing that was claimed for it. Truth may often come from an apparent opposite, just as Baily makes his Lucifer say, and appropriately to our subject:

"There is less real difference between things
Than men imagine. They overlook the mass,
But fasten each on some particular crumb,
Because they feel that they can equal that,
Of doctrine, or belief, or party cause."

VITAL FORCES IN PLANTS.

UNDER our regular "Horticultural Societies" heading, we give the proceedings of a recent meeting of the Cincinnati Horticultural Society, in which a paper, by some unknown gentleman, appears worthy of particular attention.

In some recent articles, and in others by some of our correspondents, similar views have been expressed to those which the writer advances. There cannot be a doubt but that in the close attention that has been given to the question of vegetable nutrition the past few years, the important one of the action of the vital forces on the elements of fertility has been considerably overlooked. Enough, however, is now known to convince thinking minds that for want of a better knowledge of the relation, plausible theories of manuring are really worthless, and much injury and loss to the cultivator have been the result. Still much that the writer advances we think untenable; but receiving the paper only as we were about to send to press, we have thought proper to refer to it, hoping to get time to return to the subject some day.

TABLE DESIGNS AND DECORATIONS.

It is common for fashion to run in praiseworthy directions, till it goes beyond good taste, when it meets unqualified opposition in every respect. Thus, designs of cut flowers became popular, and horticultural societies believed it as useful to offer prizes for them as for the best pot plants, or the most

superior bunch of grapes. Gradually, these designs proved monstrosities—gardens, buildings, and natural objects—birds, beasts and fishes became subjects of imitation, and the most gross and miserable caricatures of such things, if they only made a "show," and excited the gaze of the populace, were sure to receive handsome premiums.

Then it became a question whether horticultural societies were really established for the encouragement of such perverted taste. Public opinion experienced a revulsion. The opposite extreme began, - till at length the legitimate claims of cut flowers for any other purposes than mere nosegays or baskets are scarcely recognized at any of our exhibitions.

It is the same in Europe as here. Recently, however, a gentleman of taste, Mr. Dilke, in view of the lack of encouragement given to this branch of decorative gardening by the horticultural societies, offered



handsome premiums at a recent London exhibition for the best table designs formed of fruit and flowers.

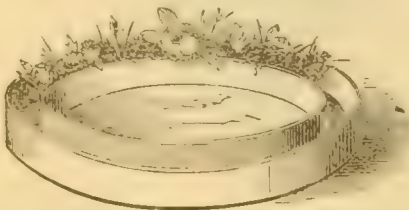
It is gratifying to note that this part of the exhibition proved the centre of interest. Ladies of the nobility entered the arena as competitors, and the subject was considered worthy of the efforts of the most refined minds that England could produce.

That our readers may understand the style of taste in this matter that prevailed on the occasion, we have engraved as a frontispiece the design that was awarded the first prize. The union of the delicate leaves of the fern with the bolder outlines of the fruit, combines a strength and elegance of beauty that is a

happy test of perfect taste. In some respects the design might be improved. The central column is not proportionate in weight to the rest of the design, but on the whole it is beautiful and cannot fail to suggest a great improvement in our usual mode of table decorations. Indeed, it is seldom that our tables—even those set out with the greatest pretensions to beauty and taste of arrangement—have more than the common bouquet of flowers for adornment. To our mind, the bouquet form does as much violence to correct principles in such situations as the most uncouth design. Its form and arrangement is particularly for the hand, and for motion. It has to be of the most formal shape, and the flowers set close and somewhat thick to enable them to be carried well, and without soon drying up. As they stick up in the glasses on the table before us, they seem to appeal piteously to us to be taken in the hand, and to be placed to their legitimate uses—nose-gays as they are. We hope to see them banished from our festal boards, and the “design” of flowers, with its infinite scope for tasteful displays, and natural beauty universally substituted.

The simplest of all dinner table floral arrangements is the vase. To illustrate its beauty for such a purpose over the bouquet, we take the foregoing illustration from our contemporary, the *English Cottage Gardener*. Of course, it would be out of the power of any American collection to furnish the rare orchidea necessary to fill it in the style represented, but they seem to convey the idea. Stiff flowers are required, of course, to arrange in the centre, and slender racemes for hanging over the sides. Fresh green moss is used for packing the stems of the flowers into, and if this is pressed in tight, and the flowers sprinkled occasionally with clean water, they will retain their freshness and beauty nearly as long as the common bouquet.

As it is all in connection with the subject, we reproduce, from our first volume, a beautiful design for a centre-table.



Since we first published it, we are pleased to meet with it occasionally in the drawing-rooms and parlors of our friends. For the sake of new subscribers who have not seen, or old ones who have forgotten, we are sure that those who have already profited by the first hint, will not object to the repetition.

As a table decoration, it is becoming very fashionable in France to employ fruit trees in pots. For ourselves, we do not admire the taste. It savors too much of the pretentious and affected. Yet, being in vogue in that country, it must, of necessity, find imitators in this, where it is only necessary to declare a fashion to be the French style in order to obtain for it general adoption. The following is a sketch we made last season, of a peach, grown in pot, and



to them who have not seen examples of this mode of cultivating fruits, it will give a fair idea of their general appearance for decorative purposes.

EDITORIAL CORRESPONDENCE.

NEW YORK, August 24, 1881.

“Isn’t it very hot to day?” is the startling inquiry of every friend I meet. Of course, with the thermometer amongst the nineties, I reply that it is hot—very hot, and the inquirers seem much relieved by my confirmation of their suspicions. You in Philadelphia have no idea of the intensity of a New York 90°. Talk of “sweltering,” but you must come here to understand that term in all its expressiveness. With your drier air, 96° or 98° is far more Icelandish than this 90°, surrounded, as we are by the sea, with its necessarily moister atmosphere.

It is bad enough to have to attend to business even with the aid of refreshing circumstances at the best in these hard times; but it is positively cruel to force oneself to it such a day as this, so I determined to abandon this crucible which so sorely tried my flesh, and betake myself somewhere into the

country in search of some cool and shady nook where I might forget the sufferings of city show, and derive comfort from the charms of nature.

To a New Yorker the Central Park is now the Mecca of rural life, so far as a day's pleasure is concerned; but from all I could learn it is not yet calculated to mitigate the horrors of a genuine hot day. The large trees which the New York press so vauntingly styled a complete success a few months after transplanting, are now considered a failure, and are not likely to afford a very delicious shade for some years to come; and the trees of medium size, that under ordinary circumstances should, by this time, have made a considerable advance, are in a state of rest, and are kept from going backwards only by constant and copious applications of water, which it is supposed will eventually supply the original deficiency of root. Moreover, I was told that the chief beauty of the park was the opportunity which it afforded to see and to be seen of men. Here the latest style of bonnet, or the most fashionable cut of coat, was so interestingly blended with the study of natural history and the beauties of the landscape-art, as to be considered synonymous, and occupied the almost exclusive attention of the patrons of the park. As for the park itself, my friends assured me, that independently of the above considerations, it was positively tedious. Every part is, in a great measure, a counterpart of the other. The first impression on entering is, that it is done to perfection. The faultless curves,—the planely moulded and exquisitely modulated surfaces,—the little clumps of bushy shrubs, on gentle rises, just where correct taste would decide little clumps should be,—rocks jutting out here and there, just sufficiently to testify strongly to the surrounding victory of art over them; and the body of water here expanding to the magnitude of a lake, there losing itself around some distant curvature of surface—on this side reflecting the sun's smiles on some overhanging bluff, on that wearing a dark brow of sadness at the overshadowing beauties of a mass of shrubs. In fact, you cannot but enter the park to be at once convinced that in managing the four great elements of the landscape-gardener's art—earth, sky, wood and water—the designer of the Central Park has managed to make the most of his materials. But having passed the threshold to progress through the work, you encounter the same style of road, the same mounds, depressions and rocks. The little clump you see is the same in outline and general feature as the one you saw before, and set precisely in the same manner, on a very similar mound, and the whole planting arrangement, in the main, suggests but a continued round of the same idea. Though the walks are broad, and the execution of

all the details perfect, the mind feels shackled.—“Thus far canst thou go, and go no further,” is whispered at every step, until, panting for freedom, the spirit bursts from its bonds, and relieves its tedium by changing the study of the park for that of the peculiarities of the park-goers. This I was told by parties of taste; but whether the criticism was just or not, I was not in a proper frame of body or mind to test personally; and, moreover, it is in all probability, unfair to form a decided opinion on the effect of so great a work until the work itself should be more nearly completed. So, passing the Park idea, I concluded to take a quiet trip to Flushing, to the NURSERIES OF PARSONS & CO., whose well-known and beautiful establishment I had not the pleasure of seeing for some years.

Taking the boat from Fulton Street Wharf, a few minutes brings us to Hunter's Point, from whence, less than a half hour's ride carries us to Flushing; a quiet village, bearing the aspect of retired respectability. Five minutes' walk found me on the higher ground of the village, by which the Nurseries are situated. I have no note of the extent of the grounds, but judge they comprise about seventy acres. The offices are considerably in from the entrance, and the approach lined by many fine specimens of rare shrubs and trees, which in themselves repaid a visit to Flushing. Near the gateway, there is a very large specimen of an upright Sugar Maple, as perfectly fastigate as the Lombardy Poplar, and well worthy of extensive introduction into landscape scenery. I had no knowledge before that such a variety of the Sugar Maple was in existence. A very large Weeping Sophora is very striking through a marked strength of beauty which it adds to the usual elegance of “Weeping” trees. A large *Kentucky Coffee*, one of my favorite trees, grew near by, reminding me how unfortunate for planters it was that its great beauty, when of middle age, was not more generally known. Its stiffness while young, no doubt, is the cause why it is not better appreciated. Amongst other good things near, the following were particularly noted: *Abies orientalis*, one of the best specimens I have ever seen; about 12 feet high. Its reputation as a slow grower is, no doubt, gratuitous. It certainly was not earned by this specimen. A fine *Pinus monapeliensis*, one of the allied group of Austrians, and of *P. Pyrenaica*, of the same group, and one of the most valuable for hardness of beauty we have not seen excelled. *Pinus nirea* was also very fine, and more nearly approaching the White Pine in appearance than I had before supposed, having hitherto seen but much smaller specimens. *Pinus horizontalis*, a fine specimen. This is not a distinct species, but a spreading form of the Scotch Fir. *Picea Frazerii* was by far the best looking

specimen I ever saw, and evidently suits our latitude much better than its next brother the Balsam Fir. The *Douglas Spruce* is quite hardy here. The finest specimen is about twenty feet high and very beautiful. Some fine specimens of *Picea cephalonica* are here—some few losing their leaders through birds resting their weight on them, and Mr. Parsons suggests that where there is such risk, the leader should be protected by a small stick tied as a stiffener while young. Probably the finest *Magnolia Soulangiana* in the world is here; the branches sweep the ground, and occupy over eight hundred square feet of surface. A very large and fine *Magnolia macrophylla* stands near this, the parent no doubt of many a score throughout the Union. The *Weeping Beech* is one of the finest I know of. I inquired of Mr. Treumpy, the foreman, how he succeeded in obtaining so large a stock of young ones in face of the generally supposed difficulty of propagating without the aid of two year old wood? But he says that with good, healthy and strong one year old wood he finds no difficulty. All these were grafted about an inch or so from the ground. I noticed a great many dwarf trees that had originated on the establishment, that well deserve the attention of the proprietors; particularly a *Dwarf White Pine* and a *Dwarf Hemlock*. Such plants are just the thing for small city gardens, and peculiar positions in larger ones. The firm seems to have been fortunate in raising such new varieties, for I also saw a very curious form of *Norway Spruce*, superior, in my opinion, to the foreign variety *monstrosa*, as also an erect and compact growing variety of *White Pine*. Much might be done for landscape-gardening by attending to the selection and separate propagation of these marked varieties, which are often much more distinct in habit and striking characters than genuine botanical species are, and produce a decided effect in the laying-out a place tastefully. The *Taxus erecta* thrives well here; it is decidedly harder than any other variety of the English Yew, and the only one that has stood out here entirely uninjured by heat or cold.

Of the newer evergreens and plants that have proved here quite hardy, but of which I saw no very large specimens so as to judge of the final effect their mature growth would give, I notice *Picea lasiocarpa* var. *Parsonsiana*, which, if it retain as it grows its present appearance, will be a most beautiful Pine. *Picea Nordmanniana*, though not new now, yet one of the scarcest and highest in price. *Picea pectinata pendula*, or *Weeping Silver Fir*. *Picea amabilis*, *P. nobilis*, and *P. Hudsonica*. Amongst other hardy and very desirable things we noted *Torreya myristica*; *Picea siliestrica*, a golden variegated American *Arboretum*; *Juniperus glauca*, a very grey and striking variety of the Red Cedar; and *Thujiopsis borealis*.

In the deciduous shrub line, *Cercis Japonica*, the new Japan Judas Tree, has proved very hardy, and very beautiful in flower. *Andromeda arborea*, a rare and beautiful small tree, and an ill-used native at that, I was pleased to see in considerable quantity. Also, a curious dwarf Snowball, called *Viburnum nanum*. The *Siberian Arborvita* seems the hardiest of all, and is surpassed by none of the newer kinds in beauty. The *Rhododendron* thrives here to perfection, and has no cause to join in the universal charge that Americans neglect their own most beautiful of plants.

Perhaps the most interesting part of the Messrs. Parsons' establishment just now was their plant-house department. The attention paid the past few years to leaf plants has imparted a new order of interest to greenhouses in summer, and has in no small degree, lent their aid to make Parsons' houses as beautiful as they are. They have here three houses devoted to these and other stove plants, all heated by two of Hitching's \$150 boilers, both in one stoke hole sunk at some distance from the houses. The arrangements were very tasteful, quite unusual for a commercial establishment, and whoever has this subject in charge for them deserves great credit. Amongst those that more strikingly forced themselves on our attention for beauty of marking or elegance of form in their foliage were *Caladium Belleynei*, *Begonia Roi Leopold*, a new seedling *Begonia* of Van Voorst's, called Mrs. Stewart; *Begonia Sandersii semperflorens*, an important improvement on the original; *Solanum quitoense*; *Begonia Griffithii*; *Dracæna ferrea*, a splendid plant for associating with statuary in conservatories; *Caladium Wightii*; *Dioscorea variegata*, which Mr. Treumpy finds to do very well in deep shade; *Dracæna terminalis*; *Allocasia metalica*, more beautiful than I had even anticipated it to be from the descriptions given in the journals; *Cyanophyllum magnificum*, as magnificent really as any one may choose to imagine it; and a new seedling *Begonia* with the dwarf habit of *rubro-veina*, but much more beautiful in my opinion than *B. rex*. There was also a new *Cissus* called *C. porphyrophyllus*, very distinct from *C. discolor*, and will, no doubt, have as popular a run.

I must not omit to note the tropical and grand appearance which the different varieties of the Plantain tribe give to the plant stove; nothing grown can excel them in this particular. I was not aware, till informed by Mr. Parsons, that in the tropics the bruised leaves are used as a poultice for burns and blisters, with the best results, and I could not help thinking it a strange coincidence that a very different plant, but with the same common name—plantain, should have a similar reputation in Europe and other

countries. Shakspeare alludes to this fact when he says, in *Romeo and Juliet*,—

Romeo—"Your Plantain leaf is excellent for that."

Benvolio—"For what, I pray thee?"

Romeo—"For your broken shin."

It has often been a question with botanists, how a name of evidently Italian origin, and given by the old Romans to another plant, got to be so long ago given to an English plant; but it is quite possible that the virtues mentioned by Mr. Parsons were well known to the ancients, and on their conquest of England they gave the same name to a plant they there found to possess the same medical properties with the true plantain of their former homes.

Amongst the Ferns and Lycopodiums worthy of special notice were *Pteris tricolor*, and *P. argentea*, *Asplenium Ballangerii*, *Alsophila radiata*, *Blechnum Braziliensis*, *Lycopodium apodum*, *Selaginella lepidophylla*, *Polypodium appendiculata*, *Lycopodium atrovirides*, and the most beautiful thing of the kind I ever saw in the shape of *Lycopodium Cunninghamii*. Along the border of the staging, as an edging, *Lycopodium apodum* was employed very successfully. Among the miscellaneous plants, well worthy of the attention of the amateur, I noted *Mussenda frondosa*, an old, but yet little appreciated plant. The same may be said of *Clerodendron fragrans* and *C. fallax*; *Lilium giganteum*, just out of flower; *Papyrus antiquorum*, very useful for imparting gracefulness to bouquets; *Cypripedium venustum*, not surpassed by any newer plant; *Tydeea Eckhautii*, and T. Mrs. Lefevre, and *Impatiens Jerdoniæ*.

The Fuchsias were nearly out of bloom; but of those still lingering, Garibaldi, Fanny Douglass, and the very double kind—*Solferino*—were the best.

In our walk through the nursery, we were pleased with the very healthy and vigorous look of the Standard Pear quarter. Mr. Parsons attributes their success to deep trenching and rather light dressing of stable manure, as opposed to the heavy applications it is frequently thought necessary to stimulate pears with. The soil in which they were growing was a heavy loam, one we should call rather clayey.

On the opposite side of the road to the nursery is the residence of one of the firm, Mr. S. B. Parsons, and by his kind permission, I enjoyed the privilege of a stroll through the grounds. The taste displayed in the laying out afforded a striking contrast to the pretentious failures so common in suburban residences. One of the commonest errors is to plant close up to the house, by which all the beauties of the planting or natural scenery of the grounds is effectually shut out from the windows. The desire of shade in summer usually prompts this; but Mr. P.'s house, while it boldly stands separate and independent of all the planting arrangements, provides

for luxurious coolness by a wide and airy piazza extending round the warm aspects of the building. The view of the whole grounds and the distant views from the piazza are, therefore, all that can be desired, and the result comes up to our *beau idéal* of what American landscape gardening should be—good taste in arrangements—but all so "fixed;" (pardon the vulgarism—it is in the present case appropriate) that we can easily see and admire without having to toil through a broiling sun to earn the enjoyment.

I returned to New York by the five o'clock train, and in the cool of the evening, having spent one of the most pleasant days I have had for some time, and to hear with surprise from some of my New York friends that it "had been a very hot day." Poor things! They know not the pleasures of gardening, and its capacity of submerging our bodily sufferings in the lethean stream. The day was indeed hot for them, but I had lost all recollection of this inconvenience in the many interesting things the Parsons' establishment afforded me.

THEORY OF THE PRESERVATION OF ICE.

IN another column we have an article from the pen of one of our distinguished scientific men on this subject, which we think, for the first time, attempts an exposition of the scientific principles on which the preservation of ice depends. It is remarkable that in all treatises on the applied sciences, this subject should have been overlooked; and we are sure that the paper will not only be read with interest by all engaged in ice management, but be received by the purely scientific community as a valuable contribution to knowledge.

Straps and Queries.

✍ Communications for this department must reach the Editor on or before the 10th of the month.

✍ The Editor cannot answer letters for this department privately.

INSECTS—A "Regular Subscriber," West Grove, Pa. —The insects you send that "has appeared on your fruit trees in considerable numbers within the last few days" have no business there. It is the Pine-tree Beetle (*Prionus unicolor*.) It is a decided enemy, and you may give no quarter to any you find. The smaller and gray beetle is a species of *Saperda*, which one we do not know, but near enough to the Apple Borer (*S. bivittata*) to warrant you in destroying all you can find. The smaller musquito-looking insects have been recently noted by entomologists, and little seems to be known of them. They have been observed to appear in quantity for the first this sea-

son. When we can discover further about them we will make a note for you

E. H., Monterey, Pa.—Your specimens are Rose bugs (*Melolontha subspinosus*.) They come out of the ground in June; live on any kind of vegetation for about a month, and then the female enters the earth to deposit its eggs. The larvæ from these feed on the roots of all kinds of vegetation, so that in every stage they are injurious. The only remedy we know is to wage war against them in the beetle state. Applications of hot water will readily destroy them. A good assistant to you in this warfare would be a lot of ducks. You have to take them young, when with a little attention they may be taught to catch hundreds of insects a day. One little fellow that we have has become so expert at the business that few of even the most active insects escape his dash at them. Of the common house-fly, not one in ten misses his stroke. Unlike others of feathered domestics, the duck does little injury in a garden.

NAMES OF PLANTS—G. H. R., Booneville, Mo.—No. 1 is Rose Gloire des Rosamene. No. 2, called with you "clematis," is *Wistaria sinensis*. No. 3, called "Chinese Lilac," is *Philadelphus Gordonianus*.

PLANT FROM PIKE'S PEAK—H. A. Terry, Crescent City, Iowa. I enclose a pressed flower and leaf of a new plant that I received from Pike's Peak last season. It is a trailing plant, something like *Convolvulus minor*, and sends up hundreds of flowers, which when fully expanded are as showy as the Snowball and possess a delightful fragrance; the leaves are glabrous; stem red, and smooth like *Purshiana*; an annual; a most lovely plant and exceedingly desirable. If you can tell the name of it, please do so through the *Monthly*. I will send you seeds if you desire. I have *Callirhoe involucrata*, also from Pike's Peak.

[Your plant is *Abronia umbellata*, a very desirable plant, but not before in cultivation that we know of. Very glad you have succeeded in obtaining it, and should be obliged by the seeds offered.]

PROPAGATING BLACKBERRIES—H., Galesburg, Ill.—This is best performed by root cuttings. Early in winter, cut up roots into lengths of about three inches, and mix with an abundance of soil in boxes, and place in a moderately damp cellar till spring; then plant the roots in the open ground in the same way as cuttings, only keeping the tops of the roots a little beneath the surface of the ground.

PROPAGATING TREES AND SHRUBS—H., Galesburg, Ill., asks the question, but it is one covering too much

ground to be replied to in this small space. So far as trees and the larger shrubs are concerned, Meehan's Hand-book of Ornamental Trees would give the necessary information. Of shrubs, there is no work extant we can refer to.

W. W., Morrisania, N. Y.—The white flower is *Gloxinea tubiflora*. The red, too small a specimen to name. Probably a *Gesneria*. The variegated leaf is *Chimaphila maculata*, or winter green.

J. B. GOOD FOR THE LAST TIME.—The advice given some time since to our private correspondents, and in our last issue, that a criminal court, and not a public paper, is the proper arena to discuss swindling transactions, seems to have had a due influence on Mr. Good, for we learn that he has decamped in disguise for parts unknown. His effects have fallen into the hands of third parties, and we are informed, amongst other things, disclose the fact that *he did actually receive the letter and money alluded to by Mr. Kohly in the June number, in spite of his protestation in the July number that he did not.*

CROMWELL'S SEEDLING PEACH—From Mr. Cromwell, Baltimore, Md.—This is somewhat like the Early Newington, but larger, and we think better than that well known and valuable variety. They commenced to decay so soon after receipt, that we could not hand them to the Philadelphia County Committee of the Fruit Grower's Society of Eastern Pennsylvania as requested, and for the same reason we had no opportunity to compare them with other kinds so as to get a definite idea of its distinctiveness from other described varieties; but so far as we can say from memory alone, we think it a good addition to already known early peaches; ripe in Baltimore last week of July.

RAISING SEEDLINGS.—A correspondent fears that the remarks in our last may have a tendency to discourage the raising of seedlings, and fruit improvement suffer in consequence. We hope not. There cannot be too many seedlings raised, and it is one of the most interesting of horticultural occupations. All we hope to see is, their being named and disseminated as improvements on what we already have, discouraged until properly proved and tested, much better than has been the rule hitherto.

LINNÆA BOREALIS.—We have to thank a Canadian friend J. G. F., for specimens which we have forwarded to the author of the *Linnæa* articles at Haddonfield, N. J. H. would gladly reciprocate the

favor by sending any plants or specimens of his district that might be of interest to him.

BAD WRITING.—We have a set of what appears to be horticultural inquiries from a New York post mark, but as we were utterly unable to read it, we supposed it to be written in some foreign language, but no professor of any modern tongue within our circle of acquaintance is able to translate it for us. We have come to the conclusion that the letter is either in the ancient Sanscrit or modern Nipponese, of which tongues we must confess our profound ignorance. Had we been able to understand the manuscript, we would have gladly tried to answer the inquiries for our correspondent.

BEGONIAS—*N., near West Chester.* asks:—"Can you inform me how to propagate Begonias? Also, in what kind of soil they do best? Are they better shaded from the sun?"

[The larger and fleshy leaved Begonias are raised by leaves. These are cut into small pieces and set edge-wise in sandy soil, with a moist heat of about 60°. Young plants shoot up from where the veins are cut across.

Any coarse, spongy soil, moderately enriched with partially decomposed vegetable matter, suits Begonias, and the variegated ones are best grown in partial shade. Some of the summer-blooming ones, however, do well as border plants, and do not mind a little sun.

Begonias can also be propagated easily by cuttings put in at this season of the year.]

BLACK CURRANT WINE—*A. S., Montgomery Co. Pa.* asks:—"What kind or which kind of Black Currant do the French make their wine of? as you published some time since that they made wine of it. Can not you give a good recipe for making Black Currant wine? It is rather late now, it is true; however, if not too much trouble, it would be good another year."

[The kind used by the French is the Black Naples. We should be glad to receive a good recipe from any correspondent of experience. The gentleman named in the other part of the letter is one of honor and standing in our community. Some error, no doubt.]

LAWN MOWING MACHINES.—A Canadian correspondent made some inquiries about mowing machines in a letter which we have not now by us. We believe the inquiry was as to their real merits, the best kinds, and whether they could be had at Buffalo.

We think so well of them that no lawn of any extent should be without them. The best we know are those made by Swift, of Fishkill Landing, New York. We are not sure that any are made at Buffalo. With care, mowing machines do not often need repairs. We saw a person recently using a Shank's machine who said it had been in constant use for five years.

HELIANTHUSES—*C. F., Cincinnati, Ohio,* asks:—"Will you be good enough to tell me whether there are any other colors except yellow of the Helianthus multiflora (double Sunflower)? I prefer it to the Dahlia, if a variety of colors is to be had of them. [There are no other colors.]

DOUBLE BROMPTON STOCK—"Subscriber."—Any fine variety of this can be readily increased by cutting, and the variety thus preserved.

Books, Catalogues, &c.

[Continued from page 247.]

ON THE SOURCES OF THE NITROGEN OF VEGETATION; with special reference to the Question whether Plants Assimilate Free or Uncombined Nitrogen. By John Bennet Lawes, Esq., F. R. S., F. C. S.; Joseph Henry Gilbert, Ph. D., F. R. S. F. C. S.; and Evan Pugh, Ph. D., F. C. S.

Passing to the subjects of collateral inquiry, the first question considered was, whether plants growing under the conditions stated would be likely to acquire nitrogen from the air through the medium of ozone, either within or around the plant, or in the soil; that body oxidating free nitrogen, and thus rendering it assimilable by the plants.

Several series of experiments were made upon the gases contained in plants or evolved from them, under different circumstances of light, shade, supply of carbonic acid, &c. When sought for, ozone was in no case detected. The results of the inquiry in other respects, bearing upon the points at issue, may be briefly summed up as follows:—

1. Carbonic acid within growing vegetable cells and intercellular passages suffers decomposition very rapidly on the penetration of the sun's rays, oxygen being involved.

2. Living vegetable cells, in the dark, or not penetrated by the direct rays of the sun, consume oxygen very rapidly, carbonic acid being formed.

3. Hence, the proportion of oxygen must vary greatly according to the position of the cell, and to

the external conditions of light, and it will oscillate under the influence of the reducing force of carbon-matter (forming carbonic acid) on the one hand, and of that of the sun's rays (liberating oxygen) on the other. Both actions may go on simultaneously according to the depth of the cell; and the outer cells may gradually pass from the state in which the sunlight is the greater reducing agent to that in which the carbon-matter becomes the greater.

4. The great reducing power operating in those parts of the plant where ozone is most likely, if at all, to be evolved, seems unfavorable to the oxidation of nitrogen; that is under circumstances in which carbon-matter is not oxidized, but on the contrary, carbonic acid reduced. And where beyond the influence of the direct rays of the sun, the cells seem to supply an abundance of more easily oxidized carbon-matter, available for oxidation should free oxygen or ozone be present. On the assumption that nitrates are available as a direct source of nitrogen to plants, if it were admitted that nitrogen is oxidated within the plant, it must be supposed (as in the case of carbon) that there are conditions under which the oxygen compound of nitrogen may be reduced within the organism, and that there are others in which the reverse action, namely, the oxidation of nitrogen, can take place.

5. So great is the reducing power of certain carbon-compounds of vegetable matter, that when the growing process has ceased, and all the free oxygen in the cells has been consumed, water is for a time decomposed, carbonic acid formed, and hydrogen evolved.

The suggestion arises, whether ozone may not be formed under the influence of the powerful reducing action of the carbon-compounds of the cell on the oxygen eliminated from carbonic acid by sunlight, rather than under the direct action of the sunlight itself—in a manner analogous to that in which it is ordinarily obtained under the influence of the active reducing agency of Phosphorus? But, even if it were so, it may be questioned whether the ozone would not be at once destroyed when in contact with the carbon-compounds present. It is more probable, however, that the ozone said to be observed in the vicinity of vegetation, is due to the action of the oxygen of the air upon minute quantities of volatile carbo-hydrogens emitted by plants.

Supposing ozone to be present, it might, however, be supposed to act in a more indirect manner as a source of combined and assimilable nitrogen in the authors' experiments, namely,—by oxidating the nitrogen dissolved in the condensed water of the apparatus—by forming nitrates in contact with the moist, porous, and alkaline soil—or by oxidating the

free nitrogen in the cells of the older roots, or that evolved in their decomposition.

Experiments were accordingly made to ascertain the influence of ozone upon organic matter, and on certain porous and alkaline bodies, under various circumstances. A current of ozonous air was passed over the substances for some time daily, for several months, including the whole of the warm weather of the summer, but in only one case out of eleven was any trace of nitric acid detected, namely, that of garden soil; and this was proved to contain nitrates before being submitted to the action of ozone.

It is not, indeed, hence inferred that nitric acid could under no circumstances be formed through the influence of ozone on certain nitrogenous compounds, on nascent nitrogen, on gaseous nitrogen in contact with porous and alkaline substances, or even in the atmosphere. But, considering the negative result with large quantities of ozonous air, acting upon organic matter, soil, &c., in a wide range of circumstances, and for so long a period, it is believed that no error will be introduced into the main investigation by the cause referred to.

Numerous experiments were made to determine whether free nitrogen was evolved during the decomposition of nitrogenous organic compounds.

In the first series of six experiments, wheat, barley, and bean-meal were respectively mixed with ignited pumice, and ignited soil, and submitted for some months to decomposition in a current of air, in such a manner that any ammonia evolved could be collected and estimated. The result was, that, in five out of the six cases, there was a greater or less evolution of free nitrogen—amounting, in two of the cases, to more than 12 per cent. of the original nitrogen of the substance.

The second series consisted of nine experiments; wheat, barley, and beans being again employed, and, as before, either ignited soil or pumice used as the matrix. In some cases the seeds were submitted to experiment whole, and allowed to grow, and the vegetable matter produced permitted to die down and decompose. In other cases, the ground seeds, or "meals," were employed. The conditions of moisture were also varied. The experiments were continued through several months, when from 60 to 70 per cent. of the carbon had disappeared.

In eight out of the nine experiments, a loss of nitrogen, evolved in the free state, was indicated. In most cases, the loss amounted to about one-seventh or one-eighth, but in one instance to 40 per cent. of the original nitrogen. In all these experiments the decomposition of the organic substance was very complete, and the amount of carbon lost was comparatively uniform.

It thus appeared that, under rare circumstances, there might be no loss of nitrogen in the decomposition of nitrogenous organic matter; but that under a wide range of circumstances, the loss was very considerable—a point, it may be observed, of practical importance in the management of the manures of the farm and the stable.

Numerous direct experiments showed, that when nitrogenous organic matter was submitted to decomposition in water, over mercury, in the absence of free oxygen, there was no free nitrogen evolved. In fact, the evolution in question appeared to be the result of an oxidating process.

Direct experiments also showed, that seeds may be submitted to germination and growth, and that nearly the whole of the nitrogen may be found in the vegetable matter produced.

It is observed that, in the cases referred to in which so large an evolution of free nitrogen took place, the organic substances were submitted to decomposition for several months, during which time they lost two-thirds of their carbon. In the experiments on the question of assimilation, however, but a very small proportion of the total organic matter is submitted to decomposing actions apart from those associated with growth, and this for a comparatively short period of time, at the termination of which the organic form is retained, and therefore, but very little carbon is lost. It would appear, then, that in experiments on assimilation no fear need be entertained of any serious error arising from the evolution of free nitrogen in the decomposition of the nitrogenous organic matter necessarily involved, so long as it is subjected to the ordinary process of germination, and exhaustion to supply materials for growth. On the other hand, the facts adduced afford a probable explanation of any small loss of nitrogen which may occur when seeds have not grown, or when leaves, or other dead matters, have suffered partial decomposition. They also point out an objection to the application of nitrogenous organic manure in such experiments.

Although there can be no doubt of the evolution of hydrogen during the decomposition of organic matter under certain conditions, and although it has long been admitted that nascent hydrogen may, under certain circumstances, combine with gaseous nitrogen and form ammonia—nevertheless, from considerations stated at length in the paper, the authors infer that there need be little apprehension of error in the results of their experiments, arising from an unaccounted supply of ammonia, formed under the influence of nascent hydrogen given off in the decomposition of the organic matter involved.

[To be Continued.]

New or Rare Plants.

NEW PLANTS EXHIBITED AT THE RECENT LONDON SHOWS.—Mr. Thompson, of Ipswich, exhibited *Nemophila atomaria maculata*; also three varieties of *Rhodanthe*, called *atro-sanguinea*, *maculata*, and *maculata alba*. The former was obtained among the limestone rocks in the neighborhood of Champion Bay, Western Australia. *Maculata* in appearance is a robust form of *Manglesi*, which was discovered by Captain Mangles, at Swan River. For this a First-class Certificate was awarded. The white variety, which promises to be exceedingly pretty, received a Label of Commendation; but all, owing to the wetness of the day and the consequent absence of sunlight, did not display their charms to so much advantage as they would have done had the day been brighter.

A very fine *Delphinium* was exhibited by Mr. Wheeler, of Warminster, to which the appropriate name of *alopecuroides*, or "like a foxtail," was given, for it was as close and thickly set as any Reynard's brush. The flowers being double, and the habit of the plant dwarf, its very closeness seemed to me to take off from the elegance of its appearance. For this a First-class Certificate was awarded.

From Messrs. Downie & Laird came a new branching Intermediate crimson Stock, not better than some out; and from Mrs. Conway, Brompton, some varieties of bedding *Geraniums*, &c., much behindhand; and from Mr. Wood, of Bedford Nursery, Hampstead Road, some fancy *Pelargoniums*, which we might have looked at fifteen years ago.

Mr. Dean, of Bradford, contributed a New Zealand Fern, called *Hypolepis distans*, which will, from its creeping and dumpy habit, be valuable as a pot variety, as it will trail over and cover the sides of the basket or whatever it may be in. For this a Label of Commendation was awarded.

Messrs. Carter & Co., of Holborn, exhibited some specimens of a new double *Clarkia*, very distinct and beautiful, much brighter in color than any of the older varieties, a rich rosy pink, and apparently quite constant in its double properties. A figure of this will appear in the *Floral Magazine*. For this a First-class Certificate was awarded.

The same award was given to a very magnificent scarlet *Verbena*, called *Foxhunter*, from John Miller, Esq., Upway, near Dorchester, brighter in color than any out, apparently a good trusser, filling up well in the centre, and very large. I measured one pip, one and an eighth inches across. Equal in size to *Grand Eastern*, but, of course, with a brilliancy of color it does not possess.

From Mr. Bull came *Phalenopsis Schilleriana*, an excellent thing, but too small to be awarded any thing as yet; *Cyanophyllum speciosum*, not so good as the older variety; *Begonia Xeramis*; *Calceolaria Sparkle*, &c.

Messrs. Veitch & Son sent a very pretty *Calandrina umbellata major*, a rock plant from Chili. For this a Label of Commendation was awarded: as was also a very pretty *Primula* from the snow line of the Andes, and therefore quite hardy.

Messrs. Charlwood & Cummins, of Covent Garden, sent a very beautiful variety of *Nemophila*, called *Discoidalis elegans*, with all the habit and appearance of its parent, but with the petals of a rich mulberry, edged with white. It was considered very striking, and received a Label of Commendation. This will be figured also in the *Floral Magazine*.

Mr. G. Smith, of Hornsey Road, sent two new *Verbenas*—"The Moor," very dark, and *Fireball*, which might have been accepted had not Foxhunter been before it. He also exhibited a very nice stand of blooms of various kinds, including *Grand Eastern*, *Garibaldi*, *Madam Zindier*, &c. For this collection a Special Certificate was awarded. He also sent a good plant of his dwarf bedding *Calceolaria "Canary."*

Mr. Melville, of Dalmeny Park, sent several varieties of *Tropæolums* and *Sweet Williams*. Some of the former were very promising as to shape and substance, but more was required to be seen of them before a judgment could be pronounced.

HUNNEMANNIA FUMARIÆFOLIA.—Described by the Horticultural Society as a fine half-hardy Perennial, (flowering the first year,) allied to *Eschscholtzia*, having similar finely cut foliage, and producing bright yellow poppy-like flowers, (with robust and erect habit); it is a desirable plant, with the general habit of *Eschscholtzia*, and adapted for similar purposes.

CAMELLIA SPIRALIS RUBRA.—A seedling raised by the late Noel G. Becar. The form of the flower resembles a screw, and is very curious. The spirals are remarkably symmetrical. The color and substance unexceptionable.—*Horticulturist*.

New and Rare Fruits.

APPLE FROM MR. CASPAR HILLER.—A very handsome apple of the size, and much resembling *Sine Qua Non*, but to our taste not quite equal in flavor to that good kind. It may possess other qualities superior to it that would render it worth naming and

disseminating. The following is Mr. Hiller's account:—

"I to-day send you, by Adams & Co.'s Express, a few specimens of an apple which I have called "All Summer." It is a variety that originated in this locality. The original tree died a few years ago, and was probably over sixty years old. The specimens I send are rather above the average size they usually are this season of the year, but as the season advances they become larger. We frequently had them in use from early in July to the middle of September. It is remarkable for its good bearing qualities—it having failed but once in twelve years—that being the summer of 1860. That year the fruit was the size of peas, when it was cut off by unfavorable weather. This year, it and Hubbardston Nonsuch are the only kinds in an orchard of sixty varieties that have a full crop of fruit. Habit of young trees very upright, but slender branches, which by the heavy crops become drooping."

JOCELYN'S BLACK CAP RASPBERRIES.—Mr. Peck has sent us some of this improved Black Cap, with which we are much pleased. The berry is fully twice the size of the common Black Cap, is more fleshy, very productive, and has the full flavor peculiar to the wild plant. The fruit has brought a good price, and it may prove a valuable kind for market.—*Horticulturist*.

Domestic Intelligence.

STRAWBERRIES.—Concluding our call at Mr. Downing's with the trial of an excellent sample of sparkling bottled cider, we proceeded perhaps two miles farther along the Valley, passing through Downingtown, to the farm of Dr. J. K. Eshleman, President of the Fruit Grower's Society of Eastern Pennsylvania. And here we may take occasion to say that of all the various localities in which the *Wilson's Albany Strawberry* has become a favorite variety, we have never visited any where it seems more completely to have cast all others into the shade, than here in Chester County. Dr. E. could raise five, if not ten times the quantity of fruit from it, as from any other kind, with the same care and on the same land; he has tested sixty-two varieties, so that he is qualified to speak, and out of them all had determined to retain but three—*Waller's*, which he prefers for his own taste, *Burr's New Pine*, and the *Wilson's Albany*. Of the *Wilson's Albany*, he had had twenty quarts from a bed containing sixty and a half square feet; the first year after planting it produces well, the second year still better,

the third year about as much as the first, after which new beds are formed. At the meeting of the Fruit Grower's Association of Eastern Pennsylvania, in June, 1869, there were twenty-five votes given for Wilson's Albany "for general culture," while the highest received for any other sorts were eight votes for Hovey, and seven each for Triomphe de Gand and McAvoy's Superior. At the same session Triomphe de Gand stood highest "for special or amateur culture," having eleven votes, while Vicomtesse Hericart de Thury (can't some ingenious pomologist propose an abridgment of this formidable name?—how would *Hericart* answer alone, for instance?) stood next, having ten votes.—*Country Gentleman*.

DESCRIPTION OF SOME NEWER STRAWBERRIES.—*Bonte de St. Julian*, (Carre.) Early, large, round, very sweet, fine flavor, perfumed; very productive.

Duc de Maaekoff, (Gloede.) Conical, very large, often monstrous, deep scarlet, round or coxcomb, firm, sweet, apricot flavor; plant, vigorous, productive, superior for forcing; has weighed 1½ ounces.

Empress Eugenie, (Knevett.) Monstrous berry, has weighed 1¼ to 1½ ounces; ovate or coxcomb, deep glossy crimson, red flesh, juicy, sweet, delightful flavor, exquisitely perfumed; vigorous, very productive; forces well.

English Lady's Finger. Oblong form, orange scarlet; white flesh, sweet, high flavor, vigorous, productive.

Imperatrice Eugenie, (Gauthier.) Large, conical, bright glossy roseate, handsome, firm, sweet, perfumed.

La Constante, (Jonghe.) Very perfect in all respects; large, regular cone, brilliant scarlet, very firm, sweet, perfumed, exquisite flavor; ripens late; plant, dwarf, vigorous, very productive; succeeds in all soils and situations; forces well.

La Delicieuse, (Loué.) Large, round or flattened, apricot color, yellowish flesh, very sweet, perfumed; plant, vigorous, productive; very late.

La Grosse Sucree, (De Jonghe.) Large, oblong, crimson at maturity; flesh, white, solid, sweet, highly perfumed; vigorous, very productive; quite late.

La Sultane, (Nicaise.) Magnificent fruit, large, conical, often too seemingly united, brilliant scarlet, glazed; flesh, white, solid, juicy, sweet, highly perfumed; plant, very vigorous, productive.

May Queen, (Nicholson.) Very early, round, rather large, pale scarlet, sweet, fine aroma, excellent; earliest of its class; vigorous, productive; forces well.

Mrs. D. Neilson, (Stewart and Neilson.) Large, variable in form, orange scarlet, juicy, sweet, high

flavor; plant, vigorous, productive; ripens very late.

Napoleon III, (Gloede.) Large, round or flattened, bright roseate; flesh, white, solid, sweet, delicious flavor; plant, very vigorous and very productive; ripens late.

Oscar, (Bradley.) Large, often monstrous, rounded, flattened, sometimes coxcomb; deep scarlet, firm, very sweet, aromatic, exquisite flavor; plant, extremely vigorous and productive; ripens early, forces admirably.

Princess Frederick William, (Niven.) Earliest of the pine family, rounded, coxcomb; large size, brilliant scarlet, solid, sweet, high flavor; very vigorous, productive; forces admirably.

Wizard of the North. Very large, variable form, bright red, firm, sweet, high flavor; vigorous productive.

Wonderful, (Jeyes.) Large, oblong, flattened, bright roseate, solid, sweet, fine flavor; plant, vigorous, very productive; ripens late.—*Wm. R. Prince, Flushing, N. Y.*

Foreign Intelligence.

VARIETIES OF PEACH FOR ORCHARD-HOUSE CULTURE.—We should be much obliged to our friends if they would report what varieties of fruit they find best adapted to orchard-house culture; very little attention has been given to this subject in our country. When engaged, some years ago, in their culture, the writer had Early York, Eliza, Druid Hill, George the IV., and Early Newington amongst his most successful kinds. A recent number of the *Collage Gardener* says:—

A great deal of the success of the orchard-house depends on getting the sorts adapted for that mode of culture. For instance, those that make short joints are prolific, such as the Grosse Mignonne, and Galande peaches, Elruge, Violette Hative, Downton and other nectarines; but the Noblesse, George IV., and trees of that class, are too long in the joints and of straggling growth. My best tree for this year is a Downton nectarine on which there are a hundred fruit well set, and most of them larger than a hazel nut.

WHITE BOUQUET FLOWERS.—The *Gardener's Chronicle* says:—

We see by a communication of M. Duchartre to the Botanical Society of Paris that there is a great demand for White Lilacs for Ladies' Bouquets in Paris in winter, and that as the common White Lilac will not force well and the flowers turn yellow,

in less time than this. They trust Mr. Fuller will not allow his seedlings to be disseminated this year, but let their merits be established by another year's trial; but this Club appoint another committee who will test their value and report after another year's fruiting we shall then have something reliable, and public confidence will be established. In testing Mr. Fuller's seedlings, the committee adopted the following requisite to entitle a variety to consideration. Large size, good flavor, high color, firm and solid, great productiveness, foot stalks well up, and good foliage. The committee believe that the following six varieties possess, in a greater degree, the foregoing properties than any other kinds they are acquainted with. They name the following seedlings in their order of excellence, using the numbers heretofore allotted.

No. 5 is named by the committee, Farmers' Club, is of the largest size, flavor very good, color a beautiful glossy crimson, flesh dark pink, solid, firm, foliage good, foot stalks well up, very productive, staminate or perfect flower, seedling of the Wilson, first year's fruiting, very promising of being well worthy of cultivation.

No. 13, named Brooklyn Scarlet; size large, flavor best, color brilliant scarlet, shape long, pointed cone, solid, firm, very productive, foliage good, foot stalks well up, perfect flower, fruited two years and shows no deterioration.

No. 29, named at the suggestion of Solon Robinson, was Col. Bidwell's, size very large, oblong, irregular cone, with neck, color dark crimson, flavor good, solid, flesh dark pink, ripens early, large good, foot stalks well up, as productive as the Wilson, perfect flower, fruited two years, very promising, seedling of Peabody's seedling, and remarkable fine berry.

No. 12, named Great Eastern; extra large, brilliant scarlet flower, good, solid, tolerably firm, very productive, foliage good, foot stalks well up, perfect flower, fruited two years. The committee believe this to be one of the largest berries in cultivation.

No. 7, named Ridge-wood; size large, flavor best, color dark crimson, solid, tolerably firm, very productive, foliage good, foot stalks well up, perfect flower, fruited two years, promises well.

No. 34, named by committee None, very large, color dark glossy maroon, seeds yellow and very prominent, solid, very firm, and dark throughout, very prolific, flavor very good, foliage good, foot stalks medium, pediculate fruited two years, promises well.

The following varieties, seedlings of 1888 Nos. 1, 12, 22, 46, 43, and 56, the committee consider very promising and recommend another year's trial. No. 14, though this year not of the largest size, maintains its productiveness character, and for flavor is not equalled by any berry in Mr. Fuller's collection. The variety reported last year as the *maifolia*, has this year, in a great measure, lost its specific character; and it may be considered more curious than useful.

After considerable discussion, and a full examination of specimens of the fruit, the report was heartily accepted by all the members of the Club, and at the suggestion of Mr. Pardon, the same committee were requested to hold the subject in charge, and report their opinion of the same next year. It was also suggested to Mr. Fuller not to send out any plants of these new sorts until he has given them the test of time to prove them worthy of cultivation.

CINCINNATI HORTICULTURAL SOCIETY.

Saturday, August 3, 1861.

The Society met this morning, John H. Gorall, Esq., in the Chair. Minutes of the previous meeting read and approved.

Upon motion of Mr. Adams, Messrs. John P. Foster, Robert Buchanan and E. P. Oranch were appointed a committee to prepare a suitable paper upon the life and most crucial history of Peyton S. Symmes, Esq., recently deceased.

PAPER ON VITAL FORCES IN PLANTS.

The Secretary then read the following paper:

CINCINNATI, O., May 17, 1861.

D. B. PRINSON, Esq.—Dear Sir: Agreeable to your request for a subject for consideration, if you will, and your horticultural friends, I will suggest that of *Matter and the Vital Forces in Vegetation*. Much is said by our writers about proper *nourishment* for plants, while that which is equally as important is scarcely hinted at, as though to teach it would produce ridicule from those professing to comprehend all that man ever has known in the subject. Vital force, or *active power*, is another thing, and *food* and *nutriment* for plants by chemical action, is another thing. However nutritious the food may be of itself, it is in a state of condition, and cannot be transferred to the plant or tree, against gravity, unless by some adequate force; mere heat won't do it, while heat may cause fluidity and elasticity. Electric force is used to transfer matter in galvanizing, and as a motive power to machinery, and is doubtless a nerve power, or vital physical principle, derived by combustion of our food and air in our lungs, instead of oxygen, as we are taught, which is merely the *heating* principle of our nature, instead of *vital* principle.

I will refer you to Patent Office Reports for 1844, pages 338-371, for interesting experiments in electricity quickening growth of

different vegetables. Browne's American Muck Book, page 13, briefly refers to them. We know that the electrical condition of any matter is affected by any change of its density or composition. That chemical action or decomposition sets free latent electricity; that the stirring of the earth by plowing, giving the air and sun access to the decomposable matter of the soil, produces some change, and promotes electric currents; the earth and atmosphere being in different electric conditions, and the sap being a good conductor, electricity flows and conveys the food prepared by chemical action to where it is needed. Unless this is so, why, in said experiments, did the vegetables grow so much faster? The ground was not made the richer by the electrical arrangement. Was it not because there was additional labor performed in supplying the increase of nutriment, as in increasing the labor of carrying the bricks for expediting the completion of a building?

May not being *unconsciously* derive this *active power* by the use of his *mineral manures*? May not there be greater chemical action, thence greater release of electricity in the ground, when *mineral manures* are used, especially if comported with animal and vegetable manures? Will not the *variety* of composition of such a compost intensify chemical action, promoted by the rains, soil, sun and air, and thus furnish to vegetation an *increased nature power*, to convey the *increased nutriment* to plants. If so, then it is a question to consider in connection with greater production and vitality of trees to resist disease.

It is a common thing to hear of peach trees living and bearing forty or sixty years on the high iron lands of Ohio and Indiana. Doubtless, elevation of position has something to do with bearing, while the iron has much to do with the health of the tree and their age. Many will say new ground is the best, because of its greater supply of nutriment. I will say, because of the decay of that nutriment, creating greater vital activity, without which nutriment would be of no use.

Field's Pear Culture refers to use of iron for pear trees.

Nails and iron have been used to save peach trees.

George Graham, Esq., has used iron on peach trees to cure blight. Why? unless because of the electricity generated by the oxidation of the iron, and its being taken up by the sap—as in case of our blood—as a tonic.

I. C. Ferris informs me that he knew of two large pear trees cured of the blight by being struck by lightning.

Electricity pervades all matter, and that matter cannot be changed and retain its latent electricity.

Read Cornhill Exchange, London, of Robert Clarke, Cincinnati, 1861, p. 167, &c., "*Why you live*," and you will find that life is given out by *decaying* matter to *living* matter, loss and gain constantly go on, one equivalent to the other.

P. 157.—"But according to the view which I now propose, decomposition is necessary to develop the force by which organization of food or nutrition is effected, and by which the various purely animal functions are carried on; that decomposition not only creates the necessity, but at the same time furnishes the force of recombination." What is this force? is the question.

Leibniz's Complete Works on Chemistry, last chapter, pp. 24-38, on chemical processes and change of place as affected by electricity—see.

Without being lengthy, many works on electricity may be referred to, showing it to be the silent mechanic at work for us while we are asleep, building up for us our food, &c., its power depending on the intensity of chemical action going on in the soil, arising from diversity of elements of soil, as acids, alkalis, animal, vegetable, mineral manures, nature of the soil, its condition of moisture and porosity, air, sun, heat and frequency of watering, and the application of this power to what we wish to cultivate, depending on the ground being free of weeds, &c., which will equally appropriate this *mechanical power*.

If in the above experiments referred to, there had been *no* decomposition of the metals used, there would have been less growth of that cultivated. A certain extent of electricity developed necessarily or artificially, is essential for a given growth, and if any electricity is *properly* appropriated to something else, the power being *lost*, that *proper growth* of the tree is *lost*; and what the one should be, hence the necessity of *electricity*, and still more so with a *variety* of manures to favor the greatest chemical action, and development of the greatest amount of *mechanical power*. If these crude, ill-digested, hasty ideas should prove to be true, on being investigated by competent horticulturists and agriculturists, they should be prepared for the press. *Natural* something and the *active power* to transfer it another. A child might starve if its mother should refuse to carry its food to it. The food would spoil before conveyed, if the child must come to it. The tree must be supplied; neither tree nor food can move of themselves. Nature has furnished in the food itself, during its preparation, its *active power*.

You have scientific associates who would probably be glad to make some experiments, so seeing that the same soil may be made to produce much more largely by increasing the *power* of the *active power*. It can be done in a hothouse at a small cost.

We have valuable manures thrown away in the city, worth more than would support our poor and needy. Ask a gymnast, black and tank refuse, if dried and ground with bones, &c., and as guano, hoofs, hair, lime, charcoal and animal black night soil,





KILMARNOCK
WEeping WILLOW.

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

OCTOBER, 1861.

VOL. III.—NO. 10.

Hints for October.



FLOWER-GARDEN AND PLEASURE-GROUND.

A FRIEND remarked to us after the issue of our last number, that it was very discouraging to be told that ten per cent. on the original outlay should be the estimated cost of maintaining a place after its completion. He thought if that were generally known, it would prevent many from entering on country life. "My place," said he, "cost me about \$20,000, and I should be sorry to believe that I had to spend \$2000 annually to maintain it in decent order." As our friend's place embraces but five acres, we were surprised at the cost, but found he included *his house* in the sum named. Allusion is again made to the subject as other parties may have misunderstood our remarks. We referred simply to the *garden* and *its embellishments*. Those few places in the Union that have had \$20,000 spent on pure gardening, will not find \$2000 too high an estimate for their annual maintenance, and never ought to find, in that fact, any discouragement.

From remarks made by other friends, we learn that the observations offered on this subject have attracted considerable attention. We are pleased that they have done so. Gardening suffers no greater injury from any source than from parties who go ignorantly into its pursuit; and we can do both it and the citizen proposing to go into the country, no greater favor than to show plainly what gardening costs, as well as indicate the various ways in which pleasure may be derived from it.

Planting of spring bulbs, tulips, hyacinths, crocus, snowdrops, fritillarias, lillies, &c., and the transplanting of shrubs, and division of herbaceous plants, will occupy chief attention in October. All

herbaceous plants are much better for being protected through winter by a covering of dry leaves, on which a little soil is thrown to keep the leaves from blowing away. Half-hardy roses and vines may be protected in the same way. When they are very long and slender, they are taken down from their trellises, and coiled into circles as small as may be, without risk of breaking them, and then the soil put on. Those things that grow late, such as many kinds of Noisette Roses, should have their immature top shoots shortened a few weeks before the protecting process is commenced. The wound will then heal over, and not cause the decay of the upper portion of the shoots, as is very often the case when they are either cut at laying down, or not shortened at all.

Of course, those roots that suffer by frost, should be taken up before danger. Gladiolus, Madeira vines, dahlias, tuberoses, &c., for instance.

Towards the end of the month almost all kinds of tree seeds may be sown, except pines, unless there is any danger from mice or other vermin. It is, on the whole, best as soon as the seeds are at hand, to place them in boxes with more than an equal bulk of sand, and set them out to the weather to freeze. They must be sown out in the spring as early as the ground will work. Some seeds will not germinate till the second year. If they do not appear early in the season, they should be examined to see if the kernels are sound, and if so, they should not be disturbed. Many seeds that usually come up the season after sowing, will not do so if the shells are allowed to dry and harden first. Cherries, peaches, and most fruits, will often lie so, and halesias, roses and thorns, occasionally stay three years. Seed-beds should be selected in a deep, warm and rich soil; and one tolerably free from the seeds of weeds,—on any other it will not pay to raise seedlings. In States where the frosts are severe, seedlings of all kinds that have not attained a greater height than six inches, should be taken up, "laid in" in a sheltered place thickly, and covered with any thing that will keep frozen through the winter. If left out, they are liable to be drawn out and destroyed. Young seedling stock received from a distance, should be also

so treated. In the more Southern States they may be set out at once, and as much planting as possible be accomplished that will save spring work. Many cuttings will not do well unless taken off at this season and laid in the ground under protection, like seedlings,—the quince, syringas or lilacs, spiræa prunifolia, and some others. In the "mild winter States," evergreen cuttings should be made now, and set out thickly in rows. The leaves need not be taken off, but short, thickset branches laid in under the soil. When rooted next fall they may be taken up and divided into separate plants. In more Northern States, evergreens may not be so struck at this season, unless protected by greenhouses and frames. Where these are at hand, evergreens may be put in, in boxes or pans all through the winter.

GREENHOUSE.

WE entered so fully into this department last month, in anticipation of winter, that we can add little now. As soon as the cold weather actually arrives, it will be the most interesting of all the branches of gardening. With but a single pane of glass dividing the tropical from the arctic zone, and yet so securely repressing the antagonism of each, we hardly know how any one can forego a greenhouse on some scale or other. If means cannot be commanded for even a small greenhouse, in these days, when improvements have enabled us to so cheaply construct them, at least a glass case with its ferns and leaf plants, will not be out of the question.

We shall have more to say on this head next month.

FORCING FRUITS AND VEGETABLES.

WE have before took occasion to express surprise that this department of gardening did not receive more attention. The past volume of our journal has contained many instructive articles from contributors, and other valuable hints on cheap and easy modes of advancing crops, that will, doubtless, be referred to at this season, and preparations be made for adopting or testing them,—whether as a source of pleasure or profit, it is an equally delightful occupation, and we should like to see a greater enthusiasm exhibited in its behalf.

Potatoes, peas, beans, cauliflower, radishes, lettuces, tomatoes, asparagus, rhubarb and parsley, are the chief vegetables usually forced; and, among fruits, the apricot, cherry, fig, grape, nectarine, peach, plum and pine.

Grapes every one wishes to grow. For early forcing, they are best grown in pots, that is, where fire heat is used; when a "cold grapery" is em-

ployed to produce them, they are usually grown in the open ground. This is a good season to prepare for the latter mode of culture, so as to have every thing ready to plant out the vines next spring. Houses can now be constructed from one to three dollars per running foot, and capable of growing grapes to perfection, and, in many places, from fifty cents to one dollar a pound can be very readily obtained for the fruit. The borders for the vines need not be expensive. A dry bottom is essential, which must be obtained either by draining, or, what is better, elevating the border above the surrounding soil. A very durable and substantial border may be made by taking out the soil two and a half feet deep, and filling in with bones and broken stone, lumps of charcoal, brickbats, or any coarse material, to the depth of one foot, then filling in the remainder three inches deep with sods from an old pasture, to which about a third of well decomposed cow or horse manure has been added. The border may extend under the vinery, and some ten or fifteen feet beyond. Pot vines are usually fruited the year following that in which they are raised. Plants struck last spring, and grown all summer, will now be ready, either to put away till wanted in spring, or started at once, where sufficient heat is at command. They should be at once pruned to the desired length, usually about six feet, the laterals taken off, the canes painted with a mixture of sulphur and soap, to destroy insects; and those not just now required either put into a cellar or shed, secure from frost to avoid danger to the pots. Those desired to fruit early, should be at once placed in a temperature of 55 to 60 degrees, and the canes bent down to aid in causing all the buds to burst equally. This, however, depends on the condition of the cane itself. A vine with badly developed buds will not break well, no matter how well managed. The buds will only swell under the above temperature; but it is not well to start with much heat.

In a house of this character, the fig may also be started at the same time, and the pine grow very well. The other fruits named will not do so well started with these, unless in the hands of greatly experienced gardeners, as the heat necessary to ripen the grapes so early, is too much for them. Dwarf beans, tomatoes and cucumbers, would, however, do very well. These may be sown at once for this purpose. Peaches, nectarines and apricots, do pretty well planted at the back wall of vineries, and especially do they do well in tubs and pots. For the latter mode it is best to grow them one season before forcing, as better and handsomer specimens can be made from one year grafted plants. Now is the time to select those that we may desire to force the next spring. They should be lifted and potted

very carefully, and afterwards placed in a cool cellar till February. Those that were potted last spring, and have a good growth, and are established sufficient to warrant an early forcing, may at once be started in a heat of from 45 to 50 degrees, and the heat increased to 55 deg. in the course of a few weeks. They should be previously cleaned, as already recommended, for grapes. Plums and cherries do not do very well forced. The difficulty is in getting them to ripen well. The writer has had the best success when started with peaches at this time. Strawberries force easier than any fruit, and certainly, when gone into properly, will pay even better than grapes. They may be had all the year round when a heat of 60 deg. can be maintained, simply by bringing forward a few every two weeks. The pots of plants should be prepared in September, six-inch size being employed. They should be started in a heat of 50 deg., till the flowers are set, and ripened in one of 60 degrees. They must be kept near the glass, and the red spider carefully watched. Those who have not command of heat, may have them very early by potting good plants, keeping them in a moderately dry place till February, and then setting them in frames. A house fitted for strawberry forcing, is just the place to force asparagus, rhubarb, radishes, peas and potatoes, which do not do well with much heat. Any of these may be started now either in pits or boxes. Peas are scarcely worth forcing, except as a luxury. They will not bear freely unless very near the light.

A cauliflower pit should be in every garden, where leaves or manure can be had. Radishes and lettuce can be forced at the same time, and will be in use before the cauliflower grows in their way. Pits of stone or brick, about six feet under, and one to two above the ground, are usually employed, with glass sashes over. The leaves should be filled in as early as possible, so as to get their most violent heating over, before the plants are set out. A watering as they are filled in assists this, which may be known to be effected by the sinking it exhibits. It is important to have the plants set as near the glass as possible; a few more leaves should, therefore, be added before the six inches of soil required is placed on. The plants, sown in September, should be planted fifteen inches apart, and lettuce and radishes may be sown broad-cast between. Asparagus, rhubarb and parsley, are prepared by taking up the old roots at this season.

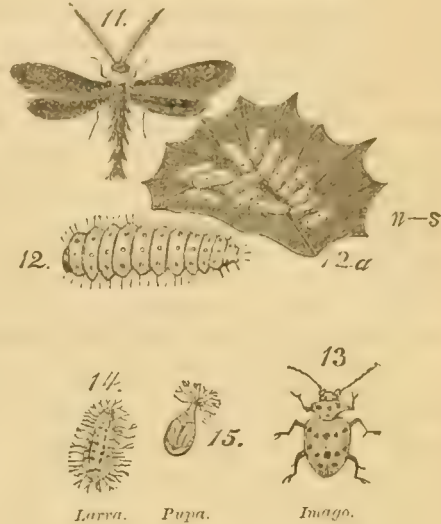
AN OLD TURTLE.—Paoli Lathrop, of South Hadley, has had the same marked turtle visit his garden for thirty successive years. The only trouble he makes is to taste the cucumbers.—*Country Gentleman*.

Communications.

INJURIOUS INSECTS.

BY S. S. RATHVON.

[Continued from Page 286.]



11, 12, 12a, *PROCRIS AMERICANA*.
13, 14, 15, *EPILACHNA BOREALIS*.

Procris Americana. Fig. 11. Length, about three-eighths of an inch; expansion of the wings, a little more than three-quarters of an inch; color, blue-black, except the orange band around the anterior margin of the thorax; wings, narrow; antennae, pectinated, and the abdomen terminated by a broad downy tuft. Fig. 12 is the larva; a yellowish caterpillar with sixteen feet, rather slender and cylindrical, and with a transverse row of small black velvety tufts on each segment. These insects are found in colonies on the grape-vine, arranged side by side, in the months of July and August, and sometimes do a great deal of injury to them, by despoiling them of their leaves at the time when they, perhaps, are the most needed. The caterpillar, when mature, is about three-quarters of an inch in length, and then seeks some unexposed place, where it spins itself into a sort of coarse cocoon previous to its coming forth a perfect moth. The specimen now before me was obtained on the first of August. From one to three broods is the produce of each season, according to the latitude of the locality. When these larvæ are touched, they all immediately curl their bodies sidewise, and sometimes fall to the ground, if they do not suspend themselves by a silken cord. All the former insects that I have been treating of as injurious to the grape-vine, belong to

the order *Coleoptera*, but this latter one belongs to the order *Lepidoptera*. There is also a species of *Tenthredo*, a *Hymenopterous* insect that feeds upon the grape-vine in the larva state, and which nearly approximates to the larva of the *Procris* in appearance; yet a little observation will be sufficient to distinguish them. When the larvæ of *Lepidopterous* insects are in a state of rest,—that is, the leaf-eating kinds,—they hold fast with the prolegs and raise up the front part of the body, to which the true or pectoral legs are attached; because the prolegs are better instruments of prehension, being each one surrounded with a little cornet of hooks turning inward. The contrary is the case with the leaf-eating larvæ of the order *Hymenoptera*; for their prolegs not being instruments of prehension, but only instruments of support, they therefore hold fast with the pectoral legs and throw up the hind part of the body when they are in a state of rest.

Besides one species of *Lepidoptera* that resembles the peach-tree borer, and at least three species of *Homoptera*, that attack the stem and trunk of the grape-vine, Dr. Asa Fitch enumerates at least twenty species of *Himptera* and *Homoptera* that attack the leaves, and also ten species of *Lepidoptera*, seven species of *Coleoptera*, and three or four species of *Orthoptera* that attack the same parts of the vine. I cannot in this paper even mention the names of the different species of these, much less give their history. Amidst this host of enemies the grape-vine would have to run a fearful gauntlet, if other contingencies did not occasionally intervene, in order to check their too rapid increase. Many of those referred to by Dr. Fitch are inconspicuous, and others infest particular localities. I have only noticed a few of the most prominent ones. Before concluding this appendix, I must present the destructive *Coccinellæ*, or lady-bird, to which I alluded in some former remarks, made at West Chester in June last. *Coccinella epilachna borealis*, Thr. Fig. 13. Length, from a quarter to three-eighths of an inch; tortoise-shaped; color, ochrey-yellow; seven black spots on each wing-cover, three at the base, three intermediate and one near the apex; four black spots on the thorax, one in the middle near the scutum and one on the anterior margin immediately opposite, and one on each side near the lateral margin; eyes, dark brown; legs, yellow, underneath the abdomen brown. This insect, when taken, discharges a globule of limpid yellow liquid of a very disagreeable vegetable odor.

Fig. 14. Larva. Length, three-eighths of an inch; color, a bright gamboge-yellow; six yellow pectoral legs, tipped with brown, and terminating with a single black hook; no prolegs; body divided into a head, eleven segments with black branching

spines standing erect, and a dark orange caudal segment, destitute of spines; the spines are gamboge-yellow at the base, and are arranged laterally and transversely in rows, six rows longitudinally and six spines in each row transversely; on the first segment from the head are only four spines, on the second segment six, and on this and the third and fourth they do not range with the remaining segments; head, much drawn under the first segment; mandibles, brown at tip, robust and short; eyes, brown and projecting from the head; antennæ, yellow and short. In eating, this larva reaches the head forward, and then gradually draws it in under the first segment, after the manner of *Lepidopterous* larvæ; but it does not seem to swallow the pulp, only scraping it off and pressing it together and sucking out the juice, leaving the expressed pulp remain in little ridges. I obtained this larva on the second day of August on a pumpkin-vine, and after letting it fast about a day, (during which time I had illustrations made of it,) I confined it, and placed part of a pumpkin-vine in with it, when it immediately commenced eating most voraciously. When first taken, it exuded a yellow limpid liquid, having rather a disagreeable odor. This larva is not new to me, but I have not heretofore been able to identify it with any particular species of mature insect. It differs very materially in its form from the *Coccinellans*, or at least from those that are *Aphidephagous* in their habits, being larger in size, more gibbous, and the head almost entirely concealed. On the 8th day of August it had passed into the pupa state (Fig. 15), merely fastening itself by the caudal extremity, with the head downward, and pushing its spiny skin backward, just as if a person were to push his breeches down to his heels and there let them remain in folds. The pupa was about a quarter of an inch long, widest at the anterior part and narrowing backward to the posterior, somewhat pear-shaped; the color was a gamboge or ochrey-yellow, and it was without the spines that the larva had, but instead thereof, it was sparsely covered with short black hairs. On the 16th of August the mature insect evolved from the pupa, leaving a thin transparent pupa-case behind. This insect has often been detected, in its mature state, eating the leaves of cucumbers, cantelopes, and other melon vines, and it is now also demonstrated—if not previously—that the larvæ also feed upon those vines; and therefore it can no longer be classed with insect friends, although it was for a long time thought to be of that character. Seeing that the larva differs so much in its form and habits from other species of the genus *Coccinella*, the thought was doubtless suggested, whether this insect ought not to be placed into another genus or constitute a new one,—not-

withstanding our aversion to the unnecessary multiplication of genera and species,—and accordingly Redtenbacher constitutes it the sole individual of the genus *Epilachna*.

GEORGE STEPHENSON AS A HORTICULTURIST.

BY L.

IN reading that wondrous story of genius, "The Life of George Stephenson, the Founder of the Present Railway System," I have been impressed with the noble simplicity and energy, the indomitable tenacity and daring ingenuity, of the collier boy,—virtues which raised him to one of the noblest positions in life: that of a great benefactor to mankind, and have given him fame which must spread and increase with time. No one can read, unmoved, the story of his struggles and triumphs, nor fail to be convinced that he was, indeed, a hero, compared with whom many who have borne the name were utterly unworthy. "Peace has its victories no less than war," and the achievements of George Stephenson, the constructor of the first practicable locomotive and founder of the present railway system, deserves a higher place in the esteem and admiration of his fellow-men than the exploits of all the heroes of the sword, of ancient or modern times.

To young men faltering or struggling with opposing difficulties, his life gives lessons which should supply fresh vigor. No beginning could have been more humble than his; but he *persevered*. He had *determined* to learn, and he *did* learn. "To such a resolution as his, nothing really beneficial is denied." The whole secret of his success in life was his careful improvement of time, which is the rock out of which fortunes are carved, and great characters formed. He believed in genius to the extent that Buffon did when he said that "Patience is genius," or as some other thinker has expressed, when he defined genius to be the power of making efforts. But he never would acknowledge that he was a genius, or that he had done any thing which other men equally laborious and persevering as himself could not have accomplished. He repeatedly said to the young men about him, "Do as I have done,—persevere."

"Every step of advance which he made was conquered by patient labor." . . . "Whether working as a laborer or an engineer, his mind was always full of the work. He gave himself up thoroughly to it. Like the painter, he might have said, that he had become great by neglecting nothing." . . . "He did all thoroughly and honestly. When a workman, he put his mind and energies into his work; and when a master, he put his conscience

and character into it. The battle which he fought for the locomotive would have discouraged most other men, but it only served to bring into prominence that energy and determination which formed the back-bone of his character. The leading engineers of the day were against him, without exception; yet he did not despair. He had laid hold of a great idea, and he adhered to it; his mind was locked and bolted to the results. "I put up," he says, "with every rebuff, *determined* not to be put down;" and it was this determined purpose which secured the triumph of the locomotive.

Towards the close of his life, George Stephenson almost entirely withdrew from the active pursuit of his profession as a railway engineer. At home he lived the life of a country gentleman, enjoying his garden and his grounds, indulging his love of nature, which through his busy life had never left him.

He took an active interest in horticultural pursuits, carrying into them the same inquiring and inventive spirit and the same determined persistence which formed so large an element of his character. He was now as eager to excel all other growers of exotic plants in the neighborhood as he had been to surpass his native villagers in the production of gigantic cabbages some thirty years before. He had a fine house built, sixty-eight feet in length, and a vinery one hundred and forty feet. The workmen were never idle about the garden, and the additions to the structures proceeded, until at length he had no fewer than ten glass forcing-houses, heated with hot water, which he was the first to introduce into that neighborhood. At one of the County Agricultural Meetings he said that he intended yet to grow pine-apples as big as pumpkins.

The only man to whom he would "knock under" was his friend Paxton, the gardener to the Duke of Devonshire, and he was so old in the service and so skilful, that he could scarcely hope to beat him. Yet his Queen Pines did take the first prize at a competition with the Duke,—though this was not until shortly after his death, when the plants had become more fully grown. His grapes also recently took the first prize in competition with all England. He was extremely successful in producing melons, having invented a method of suspending them in baskets of wire gauze, which, by relieving the stalk from tension, allowed nutrition to proceed more easily, and enabled the fruit to grow more freely and ripen thoroughly.

He took much pride in his growth of cucumbers. He raised them very fine and large, but could not make them grow straight. Place them as he would, notwithstanding all his propping them and humoring them by modifying the application of heat and the admission of light for the purpose of effecting

this object, they would insist on growing in their own crooked way. At last he had a number of glass cylinders made, into each of which a growing cucumber was inserted. Thus restrained, the unwilling fruit yielded to his guiding hand. Carrying one of the new products into his house one day, and exhibiting it to a party of visitors, he told them of the expedient he had adopted, and added, gleefully, "I think I have bothered them *now*!"

He was unsuccessful in his attempts to keep bees. The cause of failure was a puzzle; but one day his acute powers of observation enabled him to unravel it. At the foot of the hill on which he resided he saw some bees trying to rise from amongst the grass, laden with honey and pollen. They were already exhausted, as if by long flying, and it then occurred to him that the height at which the house stood above the bees' feeding-ground rendered it difficult for them to reach their hives when heavily laden, and hence they sunk worn out with the effort. He stated the case to Jesse, the naturalist, who concurred in his view as to the cause of failure, and was much impressed with the keenness of observation which had led to its solution.

His country home was the resort of many early friends, who greatly enjoyed his hospitality. With them he "fought his battles o'er again," reverting often to his battle of the locomotive, and was never tired of telling, nor were his auditory wearied in listening to the lively anecdotes with which he was accustomed to illustrate the struggles of his early career. Whilst walking in the woods or through the grounds, he would arrest his friends' attention by allusion to some simple object, such as a leaf, a blade of grass, a bit of bark, a nest of birds, or an ant carrying its eggs across the path, and descant in glowing terms upon the creative power of the Divine Mechanism, whose contrivances were so exhaustless and so wonderful. This was a theme upon which he was often accustomed to dwell in reverential admiration when in the society of his most intimate friends.

In his deportment George Stephenson was simple, modest and unassuming, but always manly. He was frank and social in spirit. When an humble workman, he had carefully preserved his self-respect. His devoted love of knowledge made his poverty respectable, and adorned his humble calling. When he rose to a more elevated station and associated with men of the highest position and influence in Britain, he took his place amongst them with perfect self-possession. They wondered at the quiet ease and simple dignity of his deportment; and men in the best rank of life have said of him, that "He was one of nature's gentlemen."

RHODODENDRONS.

(Continued.)

BY A. MIELLEZ, FLUSHING, N. Y.

MR. EDITOR—Before I proceed with rhododendrons, allow me to make a few remarks as to flowers and gardening in general, to serve as an excuse if I should happen to get too much into the minutiae of them.

I presume a good many of your more scientific readers, as well as practical business men, will smile at my attempt to give such simple directions, while I think in doing so they may be of some use to amateur cultivators. Moreover, (I am sorry to say,) there are a great number of so-called business men, who, on being asked for some information, have always got the ready reply at hand, "Find it out yourselves; or, if not quite so impolite to say so, at least think so, giving some avoiding answer.

It is earnestly to be hoped that selfish short-sightedness should soon cease, for the general benefit of gardening and things connected therewith. The more amateur gardeners and the public at large become acquainted with flowers and their management, the better it will be for both parties, gardeners as well as amateurs. Yet there is still another great question arising out of this. Any man, no matter what stage of society he occupies, may learn and profit by flowers. They are a rich source of delight, bestowed by the kind Creator upon mankind. Study them, and I am confident to say, that there is hardly any thing that will give more real pleasure than flowers. Flowers have always been, at all times and ages and with all cultivated nations, (such as Greeks, Romans, etc.,) highly esteemed. Looking at the ornaments of their architectural works, we discern them chiefly to be composed of flowers, studied from natural ones, and it is much to be lamented that in designs of the present time the form of flowers is so utterly neglected. But now I have myself rather more digressed from rhododendrons than I anticipated. What I have to add in respect to grafting large plants, is, firstly, that proper care should be taken to disturb the roots of the plants as little as possible when taken up. If done in summer, the ground around them should be thoroughly soaked previously. Then the ball cut round with a spade and lifted out, not by the stem, but by the ball itself. If large and heavy, pieces of canvas may be drawn underneath, on which ropes with poles are tied, and so be carried easily to the proper place, *i. e.*, where they have to remain while uniting, and there be grafted. It is difficult to handle fresh-grafted plants of large size, without disturbing the grafts. Smaller plants may be taken to a shed on

masse, grafted, and afterwards taken to a pit or house. The balls have to be covered with soil, and the whole to be well watered. This will keep a pretty damp air around the plant for some days, during which time they should not be watered. Afterward sprinkle the whole—plants, grafts and all—with a syringe or fine-rose watering-pot, taking care, however, that they get dry once in a day, by giving some air in the morning. The other time keep them pretty close and well shaded till they unite, which will be in about a fortnight, when more air and light is required. In about another fortnight or three weeks they will be ready to be put out of doors again. For inexperienced hands, however, it may be more safe to let them make their first growth where they are, especially if in a pit. It has the advantage of giving more command over them. Here they can be nicely syringed (which promotes the proper development of the leaves) and hardened off in an easy way by giving more air by degrees, and ultimately removing the lights altogether. It will also be good to give them a slight protection for the first winter, which may be easily accomplished if in the position mentioned.

Plants worked in this way should be set out in spring as early as possible, on beds prepared for them in the autumn.

Though rhododendrons, as found in their natural state, more or less grow in peat, experience shows that they will thrive favorably in a more solid ground. Nay, they require this for garden culture, being exposed to the rays of our hot summer sun, which would quite burn them up and cause death to them if planted in peat. The ground should be prepared as follows: First well drained, and if the natural soil should be a sterile one, removed to the depth of eighteen inches, (it is a great mistake for rhododendrons, as well as for many other plants, to fill deep holes with a rich soil,) then fresh, sweet loam taken from an old pasture (only the turf) in moderately broken pieces and mixed with one-third peat or well-decomposed leaves and a little sand. With this the bed is to be filled to a little above the level of the surrounding ground. If the soil is naturally good, it may do to dig in a good portion of peat or leaf-mould.

[To be Continued.]

FRUIT IN CANADA.

MR. CUSTEAD, Goderich, C. W., under date of August 12th, writes:

Our prospects for fruit in this section of the province (and, I believe, in all sections) are not particularly flattering. Plums, apples, pears and peaches there will be a few of, most bearing trees producing

a few specimens. Currants and gooseberries, about one-half a crop. Raspberries, an abundance. Strawberries, with the exception of Wilson's Albany, have done nothing,—that variety (the Albany) succeeded admirably, and seems the only one of the older varieties worth cultivating in this climate, being less affected by neglect, unfavorable soil or climate, than any other we cultivate, among which we include most of the old popular varieties.

HYBRID SPIRÆAS.

BY F. PARKMAN, JAMAICA PLAIN, MASS.

THREE years ago, I fertilized the flowers of *Spiræa callosa* with one of the numerous varieties of *Spiræa salicifolia*. In the crop of seedlings which resulted, two proved to be perfect hybrids, combining the characteristics of both plants. The individual flowers are like those of *S. callosa*, but they are arranged on the stalk in a conical, or rather oval, and not flattened form; or, in other words, the inflorescence is not, as in the female parent, a corymb, but a thyrs. The foliage and habit resemble those of *S. callosa*, though the bud is more compact. I am propagating the plants,—I will send you specimens hereafter.

[Very glad to find that attention is being paid to hybridizing our ornamental trees and shrubs, and that Mr. Parkman has been so successful. Much may, no doubt, be done with spiræas. If we are not mistaken, *S. Billardii*, one of the best of the family, is a hybrid between *S. salicifolia* and *S. Douglassii*.—Ed.]

THE HEMLOCK.

BY S. L. B., BROOKDALE FARM, MAINE.

THE Hemlock, sometimes called Hemlock Spruce (*Abies Canadensis*), is the most beautiful tree of the family to which it belongs—Pine family, and is distinguished from other pines by the softness of its delicate foliage, smoothness of limbs, and graceful aspect. It is said by Pursh to extend to the most northern regions of Canada, and is so generally diffused throughout North America, that it has, in many instances, been chosen as an emblem of America upon maps and works relating to the country. Its height is from forty to seventy feet, and in diameter it varies from one to three feet. The body of the tree rises uniform until within a short distance from the top, when it tapers rapidly, forming a small, round head.

Emerson, in his "Trees and Shrubs of Massachusetts," says, the branchlets are very small, light and slender, and are set irregularly on the horizontal sides of the small branches, forming with them a flat sur-

face. The leaves are small and flat, from half an inch to three-fourths of an inch long, arranged in spirals around the branches, but disposing themselves by the bending of the foot stalks in two rows on the sides. The bark of the hemlock is extensively used throughout the Northern States, in the process of tanning, being used as a substitute for oak, and it is said, if the bark is mixed with oak it is superior for this purpose to either alone.

The timber of the hemlock is wanting in strength, the tree often being *shaky*, which cause, Michaux says, is owing to the winds acting with great force on the broad, compact summit of the tree. The wood is not highly esteemed as fuel. The trunk of the tree sawed into boards and other timber, is highly valued, but large specimens of the tree are rapidly disappearing from our northern forests.

As an ornamental evergreen tree, the merits of the hemlock have not been sufficiently appreciated. It is graceful in aspect, of fine-growing habits, while its allowance of trimming and training make it worthy the notice of those who need, in winter, the shelter which it gives, or who admire the ornament of its evergreen foliage. It is a tree of slow growth, and it is very common in our pastures and upon the borders of forests. These are almost the only objections against it, yet, with good treatment, and a good soil, it will flourish well; and surely, there is no tree more beautiful than a hemlock growing in a natural position in the situations just mentioned.

A FAILURE IN GRAPE GROWING.

BY COL. D. S. DEWEY, HARTFORD, CONN.

RECORDS of failure are so comparatively rare in the well-filled columns of your *Monthly*, that I am induced to send you one by way of variety. It relates to the so-called Bright's System of Grape-culture.

I had read with great interest all that had appeared in the horticultural periodicals with reference to this method, and, also, in Mr. B.'s own book, and with a mind favorably predisposed towards it, I was relieved of all doubts as to its practicability by an opportunity of personal inspection of the system as carried out in the vicinity of Philadelphia, and particularly on Mr. B.'s own premises.

So, upon my return home from the Pomological Convention, last fall, I immediately made a commencement of carrying out the plan for myself, by setting out one hundred and fifty hardy vines—Delawares, Rebeccas, Dianas and Hartford Prolifics—in two long rows, six feet apart, the roots being planted two feet apart in each row.

(*Mem.*—I have, this Spring, added eight similar rows, containing, principally, Hartford Prolifics, at distances varying from two to four feet in the rows.)

The next move was to arrange one of my green-houses, 48 by 15 in the clear, and of good height and favorable slope of roof, so that I could employ my leisure during the winter in assisting to construct, and fill with suitable material, a row of "detached, divided, and suspended" grape-boxes, twenty-four in number, along the inside front, according to specific details in the book.

In process of time all this was duly accomplished, and in March the vines (principally Black Hamburgs) were set out in the boxes.

A number of vines were also planted in large pots at about the same time, and were placed along, (half-plunged,) in the vacant spots of prepared grape-soil in the border, one or two in each compartment. Thus far "per order," and thus far all right and very promising. But the vines did not grow, and the vines haven't grown, although a part did make a desperate effort at first, and the result, so far as the tender sorts are concerned, is, that the experiment has proved with me a positive failure!

Post Scriptum.—Perhaps I ought, in common justice, to add that my stock of Black Hamburg vines consisted of one-year-old layers, of only medium quality; and these "happened" to get rather too cold, and too dry, and too damp, at intervals during the winter, before being planted. I should have preferred good thrifty one and two year olds, from eyes, but, at that time, it was "these or none," with me.

Nota Bene.—Owing to the interference of other business arrangements, the vines were not properly watered nor syringed, and may have suffered in consequence. Besides, they were never mulched nor shaded in the least, although directly under and near the lower end of the roof-sashes, which were fixed. The front was also fixed, being a brick wall, instead of upright and moveable sash.

Addendum.—The house was neither sprinkled nor medicated, nor systematically ventilated, and it may be that nature rebelled against such neglect. I am the more inclined to this opinion from the fact that the potted vines have performed no better than their neighbors planted in the system border.

Et Cetera.—The hardy vines outside have done somewhat better, but they are by no means in a proper condition to prove to a Connecticut community the superior merits of a new Pennsylvania system. To be sure, they have received but little care, owing to the necessary (?) transfer of attention to other matters. They have had no mulching, no special fertilizing, no stakes, trellises or supports of any kind, and but little hoeing and weeding.

Finalo.—"Poor Mr. Cornelius," says Mr. Meehan, page 84; "we fancy there are no inconsiderable number who imagine his process to lie in his pot,

and not in his principles, and that they have only to slip in a cutting and take out a plant." Poor Mr. Briget! the same imagination may exist in some minds with regard to your "principles!" Now, can't you accommodate such, (if such there be,) by an amendment to your system? Say thirty pages, more or less, in your *third* edition, so that, when an amateur grape-grower is engaged in other avocations which call him imperatively from his favorite pursuit of horticulture, his graperies and vineyard may be in the condition of the boy's musical arrangement, which "whistled itself?" "Slip in roots" and take out fruited vines—that may be the requirement.

Suppose you entitle the new chapter thus;—Dwarfing Made Easy; and Pinching and Stopping Dispensed with.

VEGETABLE TRANSFORMATION.

BY J. J. STAUFFER, LANCASTER, PA.

My worthy friend, J. B. Garber, Esq., "in his article in the September number, on Grape-ology," compliments me as "a good botanist, entomologist, &c., adding, "indeed, well-informed on all subjects." For which I tip my beaver, taking it for granted, that "mutual friends" will not talk ironically, though they may indulge in "a good laugh occasionally at one another," to which I cannot object.

With regard to that "barren grape-vine" on which "all manner of experiments were made to make it bear fruit." The facts are simply these:

Seeds from a *raisin* were planted in a pot, in the summer of 1857. Whether the raisin was the dried fruit from grapes that grew on the warm shores about Malaga, Valentia, or some other raisin-growing country, is immaterial; one of these seeds germinated and put forth its tender branches. In the spring of 1859 it was set out in rich soil, on the south side of a shed, in an exposed or sunny position, where it grew rather rankly, and stood through the mild winter without any protection. No attention was paid to it in the spring of 1860. It grew luxuriantly and flowered freely, but yielded no fruit.

Dr. Wm. B. Fahnestock, a well-known chemist and botanist, remarked on observing it, that he had planted a vine, which for several years had nothing but barren flowers. When he came to the conclusion to try the virtue of *blood* applied to the roots, in order to furnish the necessary nitrogen or stimulant, to his surprise and satisfaction, the vine commenced to bear fine grapes, and continued to bear every year since.

On this, to me, good authority, bullocks blood was applied to the roots in the spring of 1861, but no knife nor training, that being wholly neglected.

The vine threw out numerous slender branches, a profusion of leaves and flowers. It was in this condition when my friend, Mr. G. saw it,—who "told me at once, it was a *male* plant, and that all my 'experimenting' to the end of the world, would not produce me a berry." Adding, "he regrets to say," he could not convince me of my error. What he means by a *male plant* I cannot devise, unless he considers the grape family to belong to the *Diœcious* class, that is, when the staminate or *male* flowers are on one plant, and the pistillate or female flowers on another plant. This plant is evidently a foreigner,—its parent yielded fruit, and this, its offspring, bore *flowers*, though they proved to be barren. He says he "never could succeed in getting a single foreign seedling to show flowers."

Ought we to call this *barren plants* in contradistinction to male flowering and female flowering plants? Truly that is the case; but would it be the same under favorable circumstances, in their native soil or climate? That is the question.

As a botanist, I believe in a certain classification of plants, which is not disturbed by local or accidental variation in certain individuals of the genus or species. The *Vitis vinifera* and its varieties, the Sweet-water, Black Hamburg, &c., all have perfect flowers; while our native species, the *V. labrusca*, and also its varieties, the Isabella and Catawba, are *polygamous*, that is, the *three kinds of flowers* can be found on the same vine, the male, the female and perfect, or hermaphrodite flowers. For this there must be a cause in the woody tissue or functions of the plant, whether in the root, stem, leaves, or other of its organs.

Suppose, for argument sake, we consider the stem or peduncle, examine its central axis or pith, the medullary tubular sheath around the pith, &c. Now, if it happens that, from some cause, whether it be the proper nutriment or what else, the vital forces of the central axis is effected, so that the central point or pistil will not receive its share of nutriment, it will become abortive; and, though its surrounding sheath be active, developing stamens, petals, &c., still the flowers will be barren.

Should this happen to *all* the flowers, as it often does to *some*, we could not properly call it a *male plant*.

I deem it unnecessary to enter upon an elaborate disquisition to prove that plants are organized bodies, requiring certain conditions, suited to the various purposes of nutrition, and that matter held in solution by water or in the form of gas or air, aided by the stimulants of heat, light and electricity, are essential in certain proportions to their full development.

And since carbon, silex, lime, soda, potash, the

oxides of iron and some other metals, enter into the vegetable structure, through the medium of the moist soil. The air of the atmosphere also affords oxygen, both in its simple state and combined with carbon, forming carbonic acid. Nitrogen, the other ingredient of the atmosphere, also enters into their substance.

Is it, therefore, "laughable" to apply blood, or other stimulating manure to plants; or out of the pale of experience, that certain conditions can be supplied to aid vegetable growth or development?

I admit that we may entirely fail in our attempt to discover the precise matter or mode of applying it to plants brought from a foreign clime, exposed to our variable climate, and in a different soil. But time and trials have done much, and may accomplish more; and, to declare that certain things *cannot* be accomplished, is assuming the position of knowing more than he that is conscious of how little we really do know, and says "I'll try."

I confess I do not understand what my friend desires to prove or disprove in his article, otherwise I might shape my argument to show "why I am not convinced of my error."

He asks a question and draws an inference in which I do not see the force, viz: If "stamens are transformed into petals," these petals may be transformed into leaves, leaves into branches, &c. "All is transformation," and we know not where we stand."

I was almost tempted to put plough-handles case, by way of an offset, but prefer being serious. Mr. G. certainly knows that transformations *do* take place; the water-lily along the river banks usually has its stamens and petals so gradually mixed, that it would puzzle Mr. G. to show where the stamens end and the petals begin.

He knows that the normal condition of the Indian Corn is to have a staminate top or tassel; while the ear, with its silk, is the pistillate plant or spike; yet he has met with grains of corn mixed among the male flowers of the tassel. Dr. Herbert, of this city, brought me a tassel of male flowers with a full ear of corn growing from their midst. This is an exception to the law of growth, but corn is not the less a *diversious plant*, nor would a botanist convert this freak of nature into the embellishment of a new species, unless this would become a constant occurrence in that particular kind by promulgation,—it would, however, still be only a variety. One more fact and I have done. Some years ago I moved to Mount Joy, where a grape-vine, called the Isabella, grew in the lot, prostrate among the weeds, and neglected by a few apple branches, shrouded from the trees. In this neglected condition the grapes ripened and were so deliciously plump and juicy, that

I concluded to remove it. Early in spring I did so, to a place to shelter the cistern, near a rich, moist gully. It grew luxuriantly and produced a grateful wide-spreading shade; untrimmed, it yielded a profusion of sweet-scented flowers, but bore no fruit.

Here, then, was another *male plant*, which I know *had borne* fruit, and many others beside myself enjoyed their flavor.

Now don't tell me that it was not the same vine,—that somebody cheated me, by substituting another; for that is plainly out of the question, since I dug it up and planted within an hour's time by my own hands; nor were there two vines in the case. Such is the fact, and proof can be produced, let the cause lie where it may.

[Those who feel interested in morphology or the science of the transformation of one organ of plants into another, will find the flowers of the canna or common Indian Shot of our gardens a beautiful study.]

It is said of a cockney showman exhibiting "Daniel in the Lion's Den," that when the child asked "Which was Daniel and which was the lion?" he replied, "Vich ever you please my boy; you pays yer money, and you haves yer choice." If there should be any "ignoramus" disposed to "laugh" at the "scientific savans," when speaking of vegetable transformations, as Mr. Garber tells us there is, it would be well for said "savan" to offer him a canna flower and let him have his choice,—petal, stamen or pistil. He might call them all petals or all pistils; at any rate, he would have the right to his choice, and find few able to contradict him in either event.—Ed.]

MY EXPERIENCES.

BY OLIVER PEGRAM, OF PEGRAMIA.

NOT a breath is stirring, not a leaf moves,—all is as quiet as if the machinery of creation had come to a stop. Silence is almost audible. The only thing to break it is the noise of my pen as it moves along on the paper before me. A real summer afternoon this is. The hot golden sunshine lies on the ground. The air out there in the meadow is stifling,—every thing and every body is at rest, waiting for the hours to glide on and bring relief. The bees alone—those busy workers—are pursuing their avocation; but then they are models—our good examples. And yet, as they swarm now in the garden before me, I fancy they are pursuing that avocation with a drowsy head and heavy wings, and do the thing altogether more from a sense of duty than enjoyment. To be sure, such fancy of mine is against all natural philosophy; but do I care for natural philosophy? Science is a charming nymph

in cool, early morn; she lures me when I have a clear head and feel bright and rosy. On a hot afternoon Comfort is the goddess which I put foremost on the altar of my Penates. To her do I pay court, and with so much a greater relish when I have been about since sunrise, and (as I did to-day) have succeeded in getting completely knocked up by work in the open air. Comfortia—fat, lazy, rusty old goddess—I adore thee!

I have no reason to complain of the means I have to worship her with. Here I sit on a cane-seat,—coolest, and yet an elastic seat for summer sitting. That seat belongs to an easy arm-chair, with a back to it, that fraternally receives my back-bone when I recline, and mighty few chair-backs will do that; most of them, in fact, being, seemingly, made without any reference to human backs. This comfortable easy chair of mine stands behind my literary-table (so called from being literally littered all over with literature in its various shapes). My feet rest on cool matting, made in distant Tauris. Around the walls stand cases, crammed full of all manner of books. Sciences, some of the arts, and a lot of æsthetics are bottled up in these books. As they stand there, they smile at me, and seemingly wait their turn to be taken down and discussed. But, O, Lord of the Mind, thy heat is too great for mind in general, and hardly my body will bear up against it. So, after having thrown myself back in my chair and reviewed the silent books in their cases, the literary litter on my table, the vagrant bee, and the landscape in the window-frame, I take to writing my *Experiences* for the *Gardener's Monthly*. I do so to keep a promise rashly made; and if they partake of a heavy character, the blame might possibly be fixed on the sultriness of the weather.

Of course, my *Experiences* relate to country and horticulture only, and therefore the *Gardener's Monthly* (chorus of readers, "Long may it wave!") folds them in its bosom. The *Monthly* thinks the experiences of an average man may be told to advantage to its readers. I think so, too. To make them has certainly been advantageous to me; and now that I have paid for them in hard cash, in time and in vexation, will they not be acceptable to gardening mankind? Will not mankind condescend to reap with me the benefits and the enjoyments derived from the above experiences, without sharing in the expenditure of the above cash, time and trouble?

I have said that I am an average man. Because, if I were an eccentric or an incentive being, a stupid fellow or a highly intelligent, refined, etc., sort of a gentleman, then my experiences would have no value. So much, therefore, of my general life must be told as to lead my readers into the country.

I was born,—but no matter where,—and am now several years old. I am also a self-made man, inasmuch as I have made myself, and for my own use, all the money I own; but I devoutly hope that I, at the same time, have been making something equally good, namely, developed what faculties Providence has endowed me with, and made general improvements in the domain of my soul. How I have made the money, that problem I will leave to the readers, if they choose to exercise their imagination on such a poor problem. Money is made on red herrings, as well as on white ones, on dry-goods and on wet ones, on thimbles and on ships, and my readers will little care about its origin. When I had made a modest pile, I, of course, thought the time had come to carry out the best wish of my life. I concluded to remove into the country.

THE GLADIOLUS.

BY WEST PHILADELPHIA, PA.

SINCE that by seedlings so many fine varieties of Gladiolus of large size, and flowers of almost every shade of pink, scarlet, white, purple and yellow have been obtained, especially among the hybrids of *Gandavensis*, great effects can be derived from the cultivation of those handsome flowers in the decorating and embellishment of parterres and for masses. In order to obtain blossoms from July to September, it is necessary to plant in the latter part of March or early in April, the smallest bulbs; a second portion towards the end of April; a third about the 15th of May, and finally, the last at the end of that month. During these various plantations, care must be taken to graduate the size of the bulbs so as to commence in March with the smallest ones and to reserve the largest for the end of May.

The culture of these plants is of the simplest kind. They ought to be planted in a good vegetable garden ground; very heavy soil does not suit them at all, but they thrive very well in good ground, well manured with well-rotted horse-dung. They are planted in rows from twelve to fourteen inches distant of each other. The bulbs should be set in the rows from six to ten inches apart, according to the size of the bulb, and at a depth of from two to two and three-fourths inches. During growth, and in dry weather, abundant watering is indispensable. In the fall, when the stems of the Gladiolus are withered, they should be cut down, the bulbs dug up and put on shelves in a dry place, not liable to frost, where they will keep until the following year, to be planted and treated as above said.

The bulbs of the Gladiolus, when cut with the stems, will blossom beautifully in water. They will open easily and successively, and make the blossom-

ing last some time; they may, therefore, be used for bouquets and table vases, and by adding a few light-green stems of tamarix, asparagus, or fine reed leaves, great effect is given to their showy appearance.

LETTER FROM CALIFORNIA.

BY A MARYSVILLE CORRESPONDENT.

I HAVE seen here some of the finest grapes I ever saw grown in the open ground. The ones I have already seen fruited are much larger than the ones grown under glass in the East. I saw in the Marysville market very fine bunches of the Black Hamburg, Sweet Water, Muscat of Alexander, Reine de Nice, Bowker, Bishop and another variety supposed to be the Black Morocco.

By your remarks, I suppose you have no idea what a fine country this is for the foreign vine. You say a warm, moist summer is what is needed. Now, that is the very thing we have here at Marysville; too much so to be comfortable. You will say, how can it be moist without rain in the summer? You must bear in mind that there is a great number of rivers and streams in this country, which keep the ground on each side very moist—some places a mile or two on each side. The ground on each side is divided into three kinds: the first is called low bottom land; it is generally too wet for any thing but vegetables, which grow to a very large size. It also seems to be the best ground for apple trees, as apples on the dry land burn with the sun before they ripen.

The next, second—bottom. This kind keeps moist near the surface all the summer, in the driest time. By digging down, you can find moisture one foot from the surface, sometimes not so much. The soil is composed of a rich sandy loam, which appears to have been some time filled up with sediment by the river. This land never gets too wet to work; it is fit to plough in twelve hours after the longest rain. This kind of ground seems to suit almost all kinds of fruit trees and vines; the peach, apricot, nectarine and plum every year are loaded down with fruit. There is scarcely a tree but what some of the branches break down; and yet, for all this load of fruit, the trees grow as strong and keep as healthy as if it had never borne fruit. Pears do well, and dwarf pears seem to bear abundantly, but apples seem to want moister ground than this; not but that they will grow well enough, but the sun is so very warm in the summer, unless the tree has a great deal of moisture at the roots to keep the tree growing vigorously, the fruit is almost sure to burn with the sun; but I suppose, as the trees get older the fruit will be more shaded, and they will do better. The early varieties do well, such as the Red Astrachan, Early Harvest, and Sweet Bough; they ripen before the weather

gets too hot. Last year, I pulled the Early Harvest about the 24th of June, quite ripe. Now the grapevines: The ones mostly grown here have been the Alicant or Black Spanish; it is generally called the Los Angeles. On this place, and on most places, they are planted about seven feet or so each way; they are trained just the same way as a half-standard rose-bush; they are pruned, of course, on the spur system: they are generally staked for the first three years, after that they will stand pretty well alone. Vines trained in this way, after the fourth year, will always average, at the lowest calculation, from ten to fifteen pounds each, and sometimes, in favorable seasons, twenty-five pounds. They are quite as good, in my opinion, in flavor and almost in size, as the Black Hamburg, and I have often seen bunches weigh over a pound. The only thing in favor of Black Hamburg is two weeks earlier, which gives it a better chance of ripening its wood in the fall. We have now planted about one hundred different varieties; most of them will bear fruit this season enough to judge of the qualities, as the vines of the foreign varieties were only one year old last summer. They were propagated from summer layers put down in July, which rooted well, which will give you an idea that the ground must be very moist and warm to root vines in about four months fit to plant out, and the second year to bear a small crop of fruit.

The third kind of land, or upland, I have not much to say about, as it is too dry for almost any thing, unless grain, which I suppose would average about twenty-five to thirty bushels per acre. But I think, in time, the upland will be the land for grapes, as the river fills up more every year in consequence of heavy mining operations in the mountains. As all the mud goes into the river, which is filling up fast, it will make the upland more moist and the second bottom too wet, in my opinion.

THE JUNE-BERRY AND OTHER STOCKS FOR THE PEAR.

BY "TYRO," WORCESTER, MASSACHUSETTS.

MR. HUDEIKOPER's article on the June-berry as a stock for the pear, in the August number, reminds me of several articles upon the same subject which were published in the *New England Farmer* some years since. If memory serves me aright, several correspondents stated that such trees did not succeed permanently. I have little doubt, however, but that a few varieties would do well on the June-berry, as there are sorts which will do well even upon the thorn and apple stocks.

Some years since, I set scions of quite a number of different varieties of pears into apple trees; one variety, in particular, made a very great growth the first

season. Next spring, I cut some scions from these shoots, and grafted more branches of the same tree. To my surprise, these last scions would scarcely grow at all, and soon died, while the first are still living. At the same time, I had taken scions from two old pear branches, which were grafted into apple trees, and these, too, made a feeble growth and soon died.

I had also obtained scions from an old pear tree on a thorn stock, and more scions of the same variety (viz., the English Bell), from a tree on pear stock, and set them all into a thorn tree; those cut from the tree on pear roots grew finely and are yet living, while those from the thorn tree grew feebly and soon died.

Since then, I have often thought that perhaps the vigor and constitution of many pear trees may have been injured from having been propagated from trees on quince; at least, I think, that if a pear be repeatedly grafted from one quince stock to another, say a dozen times, the last scions will be found to have lost much of their vigor.

If this be so, it is certainly worth the attention of nurserymen, and it certainly would seem to be the best course to propagate only from trees upon pear stocks. I would also say that I have never known any valuable variety to succeed long, either upon thorn, apple, or Mountain Ash. I have grown fine specimens of the Flemish Beauty upon an apple tree, but the scions were short lived. Some inferior sorts have lasted thirty years, or perhaps longer.

[Propagation, no doubt, tends to fix a habit given to a plant by the stock or any other cause. We do not suppose, however, that it would so materially affect it as to act injuriously in the way our correspondent supposes, but it might be worth looking after.—ED.]

THE INDIAN OR CHINESE AZALEA:

Its Introduction. Cultivation. Propagation and Description of the Best Sorts, New and Old.

[Continued from Page 254]

BY AN OLD FLORIST, PHILADELPHIA.

I HAVE said that there are growers and propagators of the azalea amongst your readers equal to those of any other country, and, of course, it will be presumption in me to point out to such the practice on which they are so well posted. It is, however, to the learner and those who wish to advance that I offer the following hints:

First procure healthy plants,—those of a firm growth where they have been fully exposed to air and a considerable degree of sun. Select them for breadth, *not height*, unless for some special object where standards may be required. Some growers prefer to have them all standards, grafted on stems

from one to three feet high, with the head either weeping, globular or of a parasol form. During the season of rest (say from November to March) the azalea will bear almost any treatment, except a heavy dose of water at the roots every day. Their natural habitat is on hilly declivities. Dry situations, even to rocks and Chinese rock-work, and a cold of ten degrees of frost, if the plants are in a dry state, will not injure them. The plants must have thorough drainage of from one to three inches in the bottom of each pot, the pots being from five to fifteen inches in width. When the plants are wanted to bloom, they can be placed in a sitting-room, forcing-house or hothouse. As soon as they are placed into heat, they must be regularly supplied with water at the root and frequent syringings overhead. If they are permitted to become repeatedly dry when in the heat, the flower-buds will turn brown and drop off quite imperceptibly, and the failure of bloom will be attributed to some other cause.

A fair attention will secure a very liberal show of flowers, and the flowering season can be extended from January to June. When in bloom, the plants must be shaded from the sun, and observe that the roots do not want for water. By good management, a plant will remain attractive for fully four weeks. As soon as done blooming, expose the plants to the sun, giving frequent syringings (three times a week) overhead with water, and keep the roots moist, but not wet, to insure a free growth. When the young shoots are about an inch long, and offer to be very luxuriant, pinch out the tip of the growth to make more branches. If, however, the growth is slow and weak, the shoots do not require topping.

Now is the time to form the head if it has been irregular; and when the blooming is over, cut it freely to the required form. The knife will not injure the success of the plants. Tie all growths into proper shape, as previously observed, *and that shape can be just to the grower's taste*. No excuse in any way will be accepted. With very simple attention, gentle waterings, and free exposure to the sun, unless a few hours' at mid-day partial shading, will give the foliage a better and brighter color.

I will here remark, that plants kept in a close, dark, shaded situation will be sure to be attacked by the thrip, a very minute insect that attacks the surface of the leaves, and a very troublesome one to get rid of, which we accomplish by dipping the heads of the plants into tepid water, made to the color of strong tea by a solution of tobacco, and repeated till they are entirely destroyed. If the plants are too large to invert, lay them on their sides and syringe their heads freely with the preparation.

SOIL.—It has been our lot to hear much stress put upon the soil. "My soil is not good," is a very frequent ejaculation, or rather apology. Good judgment of the nature of the plant will grow them in any free, sandy soil wherein there is a very liberal portion of decayed leaves or soil from the woods. So much importance is placed upon the "soil," that I see some of the Philadelphia nursery-men sending it to all parts South, West, North, and even East. Wherever swamp-muck and white sand can be obtained, proper soil can be composted for azaleas, of one-third sand, one-third swamp-muck, and one-third loam or decayed sod; if such is not "come-at-able," very sandy loam and decayed leaves in equal proportions will suit.

The best season to repot is just when done blooming or in September. They do not, by any means, require large pots. The reverse is the best. The roots are very fine, and do not object to a few waterings with weak manure-water when in a growing state. Bad drainage and over-potting are great sources of evil. The neatest grown azaleas that have ever come under my eye are those of C. Van Vorst, Esq., of Jersey City, and am rather inclined to award his collection the *first prize* for beauty, perfection and rarity, and for an eye notes of something beautiful and valuable, am indebted to that gem of a connoisseur.

An evil amongst growers in potting azaleas is in not making the soil about the roots firm. All pot-plants should have the soil well packed down. To show the tenacity of life in a Chinese Azalea, allow me to observe that I have a plant placed where it has the sun after twelve o'clock, and it has only been watered three times by the hand since May. I would not eat my collection in this way; but it has been done to convince me, and perhaps others, that these plants suffer much by over-doses of the watering-pot.

PROPAGATION.—The primitive mode, and the first that I saw adopted about Philadelphia, was laying a branch in the pot or tying pots to branches of the plants, wherein they rooted in about six months, and that method was practised in nursery green-houses. The first plant that I saw of *Azalea phœnicea* (above thirty years ago) had its head placed in a shallow box, with every branch layered. I volunteered a negative on such barbarous treatment, but only received an affirmative, that it was the only sure plan. An old countryman, however, appeared, who took cuttings of half-ripened wood in August and placed them in pots of brown sand, covered with a glass, and was quite successful with rooting them in six weeks. This we all looked upon as a notch in the right way, and azaleas from that date became accessible. Now every person can multi-

ply their stock in this way: Fine sand in a small pot, firmly pressed down and well watered, into which insert cuttings of young shoots of half-ripened wood about an inch and a half long. Take the leaves from the base of the cutting; insert it half an inch into the sand very firmly; cover the pot with a tumbler or any similar contrivance; keep from the sun and water every day, and you will have some degree of success.

The propagators' method now, however, is to propagate from the young shoots when they have made a growth of one or two inches. These are taken off and placed in sand and kept in a moist heat of from 60° to 65°; the cuttings covered closely, or the house densely shaded and freely watered. Tens of thousands are rooted in this way in a few weeks, and sold off to the trade within six months.

The tip-top method for fancy culture is to graft them when the wood is so young and tender that you would think it could not be manipulated with. Shoots half an inch long are taken off, their base cut into a wedge-shape, equally from both sides, and inserted into a stock of any required height, the top of which has a young growth, merely inclining to firmness, which cut and make an incision in its crown; into such insert the base of the cutting; tie with a woollen or cotton thread; place the plants in a close frame, or house, or under a hand-glass, where there is a moist heat. Take care that water does not get into the junction, and the union will be formed in forty-eight hours. After one week the plants may be gradually exposed, the ties unloosened, and the future prosperity of the plant a triumph.

I have seen a boy slip these in at a very rapid rate, and have now in my possession a plant grafted last April, that has eleven shoots, forming a fine round head six inches high and ten inches in diameter. I have not a doubt but that many amateurs and gardeners can far exceed this, as I have used no extra appliances.

[To be Continued in our Next.]

THE KITCHEN-GARDEN.

BY WALTER ELDER.

THE kitchen-garden is one of the most important and interesting departments upon the estate, and beautifies or disfigures it according to its location and enclosure. Where we find it almost close up to the cottage and mansion, and in full view of the windows, with its bare soil and leafless trees and bushes in winter, it is the most uncomely feature in our system of gardening, and bespeaks a decided want of refined taste. Two reasons are given for

so locating it. "I want my fruits and vegetables grown under my own eyes, to prevent pillage; and when the cook needs an extra vegetable, she can call for it."

After a long experience in this matter, and much conversation with other gardeners, we think the peculation of vegetables is very rare; but fruits growing in an open garden so near to the house, and a daily resort of all its inmates, are more subject to pillage than they would be any where else. As well place a doorless safe full of gold in the open hall for safety! So very tempting are ripening fruits, that none but gardeners and owners, who know the care and cost of producing them, can resist the desire to pluck. If it were otherwise in the best-regulated households, better grow a few trees of choice fruits upon the lawn, than disfigure the place with an eyesore so near to the house. Instead of the cook calling for any vegetable, let her take a smart race upon a hard gravel walk, say three hundred yards to the garden and back,—the best thing to preserve her health, good looks, good temper and usefulness.

Upon small places the kitchen-garden should be as far from the house as the grounds will admit, and well fenced in. Upon large places it should be two or three hundred yards from the mansion, and hid from it by trees and shrubbery upon the intervening lawn. A sheltered spot, but not near to large trees, and sloping to the east or south, or a level that can be drained will do. The soil can be improved; a light loam is best. A perfect square is the best shape, but a quadrangle oblong figure is good. The size will be in proportion to the extent of the grounds and the number of the family. Where space will admit, and choice fruits are to be grown, one and a half acres is small enough. The best, cheapest, most lasting and beautiful fence for it is an osage-orange hedge. The plant is well suited to our climate, and thrives upon a variety of soils and exposures. If it gets the same care as a row of corn the first three years, and a semi-annual clipping, it will be a substantial fence by that time, and will last for ages and be in unison with the good-keeping of the place. Seven feet high, four feet thick at bottom, tapering to nothing at the top, it will be a good shelter, and better than any dead fences. A "close board" is good shelter in cold weather; but in hot weather it keeps off the lower air current, and the sun is too strong for many kinds of plants, unless there is a constant circulation of air passing among them. Wire fences neither give shelter in cold weather, nor soften the arid air of summer, which is so withering for newly-transplanted crops before they make roots to supply the excessive evaporation. A good hedge is best adapted for our climate

of extremes. It is like a riddle for the winds,—the *wheat* goes through it, and the *chaff* flies over.

A garden enclosed with such a hedge, and locked gates, and the gardener and owner only having keys, the best fruits of our climate can be grown without molestation. First manure and trench the soil, and then lay out the garden; if square and one and a half acres, line off a strip along the north side thirty-five feet wide. In the middle of it, and facing the main cross-walk, may be erected a tasteful tool-house and seed-room, with a cellar beneath and an observatory above. On either side, and ten feet off, ranges of forcing-pits, eight feet from the hedge-roots and ten feet wide; a gravel walk in front, six feet broad, and gravelled behind; a gutter at the outer edge of the front walk to carry off water. Next a border for cropping, ten feet wide. Make a walk along the front five or six feet broad; and in making this walk, all around the other sides let it be fourteen feet from the hedge-roots, to give a cropping border ten feet broad, two feet for the hedge to branch, and two feet of a path to hoe and clip the hedge. Next make two cross-walks through the middle of the garden, so as to cross each other in the centre. Here may be made a circular flower-bed, with an ornamental frame in the centre to train vines upon. Instead of this, we have seen a sunk cistern, and the drains emptied their waters into it and supplied the garden with water all summer. The walks should be all edged with boxwood, and the soil dug out slopingly, a foot deep in the middle, and filled up with stones or rubbish from buildings, and covered with stony gravel. On the edges of the four square beds plant small fruit trees, dwarf pears, Crab Apples, quince, nectarine, peach, etc., with gooseberry and currant-bushes between them. These trees may be eight feet from the edge of the walks; and allowing them to branch out five feet, there will be three feet for the culture of annual, biennial and perennial flowers to enliven the walks. Raspberry, asparagus, rhubarb and other tall crops will be grown upon the beds, and dwarf crops upon the ten feet borders all around. If the forcing-pits do not run the whole length of the first lined off strip, then erect grape-vine arbors to fill up the length. A proper system of rotating crops should be kept up. We may arrange them into four classes, and no individual of the same class should follow each other upon the same spot. 1. Beets, carrots, parsnips, potatoes, radishes, turnips, &c. 2. Beans, peas, okra, pepper, egg-plant, &c. 3. Melons, cucumbers, squash, tomatoes, &c. 4. Cabbage, lettuce, spinach, celery, leeks, onions, &c.

An annual exchange of seeds is of much importance in successful cropping, as all kinds degenerate when grown many years upon the same garden. It

is folly for a gentleman's gardener to save seeds if he has other work to do, as the labor spent upon them is worth double the price of a fresh supply. Seeds can only be grown profitably in large quantities. Besides, ripening crops in a well-kept garden are unsightly; and they hold up the ground from getting a second crop in, which, of itself, is worth more than the price of fresh seeds. A crop ripening its seeds reduces the soil more than two crops taken off green.

Attached to a corner of the garden outside may be a yard sixty or eighty feet square, enclosed with lilacs, hydrangeas, altheas, and a shed to hold sashes, covers, bean-poles, pea-stakes, tying-up sticks, &c., and clothed with vines. Into this yard will be brought all cleanings and refuse of the garden, manures to decompose, composts made up, &c., so that the garden will look clean at all times.

FRUIT HINTS.

BY H. C. VAN TYNE, CLEVELAND, O.

As I am indebted to the *Gardener's Monthly* for many valuable "hints in horticulture," permit me to give you the result of a few applications of same.

I have met with *decided success* in using tobacco-stems as a preventive for the peach-borer. Frequent examinations since early last spring, have revealed but one borer. I renew the supply of stems as often as I deem advisable, and find no injury to the roots from them. I have also acted on Miss Morris' hint relative to the application of saltpetre, alum or salt, as special manures for the peach, and with most promising results. I sprinkle them on the surface of the soil to within about a foot of the trunk of the tree.

My trees, which were inclined to be sickly and of puny growth, are now in splendid condition, and this season made very strong, healthy growth, and from summer pruning are sending out strong, thick branches, some sweeping nearly to the ground, affording complete protection to the trunk from the scorching sun.

Last season, I used Gishurst's Compound for slugs on my pear and cherry trees. This season, I have used nothing but Whale Oil Soap, which I find quite as effectual and more beneficial, I think, to my trees as it gives a healthy, bright color to the bark, and keeps the leaves fresh looking and free from spots. I apply it once a week or fortnight, as they may require, and the expense is but little more than that of common soap, costing here five to six and a quarter cents per pound. Instead of a syringe, I use a "hydropult," which has great forcing power, and its flexible tube renders it far superior to the syringe in application to under-side of foliage.

Why is not Whale Oil Soap more generally used West? I found but one barrel in this city, and that was considered unsaleable. There will, undoubtedly, be another barrel purchased for this market as early as this fall.

WINTER-BLOOMING PLANTS FOR WINDOWS.

BY J. M.

As the time is now approaching when plants intended for winter-flowering should be attended to, I propose to say a few words on the subject. If they have been growing in the open border all the summer, they should be lifted about the latter end of September or beginning of October, potted and placed in a shady spot for a few days previous to their being taken to their winter quarters. Those that have been grown in pots and are still likely to grow much, may be shifted into a larger-sized pot, the plants well cleaned of all dead branches and leaves, and placed with the others that have been lifted from the border.

A few good kinds for the purpose named are the following: *Aphelandra Ghiestbrechtii*, *Lopezia rosea*, *Cyrtanthera magnifica*, *Oldenlandia Deppii*, *Justitia carnea*, *Rondeletia anomala*, *Cupheas*, *Habrothamnus elegans*, *Begonia incarnata*, *Oxalis floribunda*, *Ageratum celestinum*, *Jasminum revolutum* and *Bouvardia leiantha*. These, together with a few *heliotropes*, *geraniums* and *fuchsias*, would make a good collection and give continuous bloom until spring.

They may all be grown in a warm dwelling-room where the temperature does not get below 50° Fahr. with perfect ease. The *Cyrtanthera*, *Ageratum*, *Habrothamnus* and *Lopezia* being the tallest growing of the number, should have the back row.

The *Lopezia* has innumerable small rose-colored flowers, and will continue growing and blooming till spring. It is a first-rate winter plant, although it does not seem to be much known as such. The *Cyrtanthera* is a rosy pink, and the *Ageratum*, grayish blue. Almost all other colors will be found with the remaining numbers. A few pots of *Mignonette*, *Cineraria* and *Chinese Primrose*, should be sown at once; they will bloom towards March.

Cuttings of most of the kinds taken off and rooted now, will also bloom at the same time, and will make the best plants for the succeeding winter.

If red spider should make their appearance, removing them by hand as soon as discovered is best where they are not numerous; if in too great numbers, washing them off with clear water is the next best thing.

NOTES ON PEARS AND GRAPES ABOUT SYRACUSE, N. Y.

BY GRAPTOLITE.

I SEND you a few notes of "things seen" on a trip to Western New York. Our principal cruising ground was the vicinity of Syracuse. What interested me most were the nurseries of Smith & Hanchett, so well known in the propagation and culture of fruit trees.

The specimen fruit grounds in the city, occupy some fifty or sixty acres; while the nurseries, about five miles out of town, cover upwards of three hundred acres. The soil of the nursery grounds is a strong, deep, clayey loam, ameliorated by deep ploughing and underdraining, with liberal dressings of rich muck and manure, and the fruit trees were very healthy. The dwarf or quince-rooted pear trees succeed well in the strong, moist clay in which they are grown. Indeed, Mr. W. B. Smith, who attends specially to this branch of the business, is of opinion that the fine fibrous roots of trees budded on the quince will fail to sustain the pear when planted in a sandy or gravelly soil, or in any other than a clayey loam or a deep, rich garden mould.

Mr. Smith is a firm believer in the value of dwarf pear culture, and proves his faith by his works, for he has introduced them extensively into his specimen fruit grounds, where they are models of beauty and perfection; and he has also planted an orchard of ten acres for a gentleman, near the city, largely composed of dwarf trees, and undertaken the management of it for four years, or until it comes into full bearing. This orchard, containing upwards of four thousand trees, is one of the most admirable specimens of successful pear-culture we have ever seen. It is surrounded on all sides by a heavy stone wall, and a Honey Locust hedge, the best protection against fruit thieves that can possibly be provided. The lot was simply a good corn-field, with a southeastern exposure, protected on the north and west by a hill. It was deeply ploughed, but not trenched or manured before planting. A light top-dressing of good barn-yard manure is given annually. The field is kept constantly clean with the cultivator and hoe, the entire season. A light, loose, well cultivated soil is thought to be the best mulching the trees can have. No crops are, of course, grown on the ground, but a few pear stocks and newly budded trees are planted between the rows. The strong, healthy growth which the dwarf trees have made, in two years, under this simple plan, is really remarkable. But little difference can be discerned between the dwarf and standard trees in respect to luxuriance and vigor. The Duchesse d'Angouleme and others on the quince, grow quite as well as the Bartlett on the pear stock; while such trees as the

Beurre Giffard, dwarf, equal the Seckel as a standard. The soil is a light clayey loam, with a porous sub-soil, liberally supplied with shaly limestone rock. This orchard may be considered a test experiment in dwarf pear-culture, for market purposes, as contrasted with common garden work. It has been planted in a simple manner, just as we should plant an apple orchard, with the best of stock, under the direction of a practical nurseryman, who has the entire charge of the cultivation, pruning and fruiting for four years, by contract. Now we shall have a chance to see what an orchard of dwarf pears will do under the best management they can have, on a large scale, with a view to profit. Mr. Smith has no fears of the result, and will, no doubt, take pleasure in exhibiting the orchard to any pomological friends from abroad who may wish to see it.

In their nursery, Messrs. Smith & Hanchett are now growing several pear trees, which are often unhealthy on the quince, by double-working them, thus: first, budding the Vicar of Winkfield (which is probably the most vigorous and healthy of dwarf trees) on the quince, and then cutting back one year's growth within an inch or two of the stock, and then budding the Vicar wood with the pear which is desired. In this way they are producing, especially the Beurre Clairgeau, (which is generally an imperfect tree on the quince,) in great perfection. The Beurre Giffard, Des Nonnes, Winter Nelis, Seckel, and some others, which, as dwarfs, are generally feeble and unsatisfactory, may, no doubt, in this way, be obtained in good vigor on quince roots. We were much pleased with the results so far.

For orchard-houses and private gardens, these nurserymen are budding the peach on the Black Plum, with a view to dwarf the trees and to protect the stem against the peach-borer and grub. They think the trees will be much approved.

Messrs. Smith & Hanchett practice the cutting-back system on their pear trees. A "cut-back" tree is one which has been grown vigorously for one year from the bud, then cut back within five or eight buds of the root, and after another year's growth, when it has made five or six strong branches all within eight or ten inches of the ground, shortened back in all its shoots, so as to become a strong, bushy tree. Such trees, especially if budded very low, "right down on the crown of the quince root," are worth double the tall, slender trees which we often find budded with the quince roots more than a foot in length, and grown year after year without any shortening of stem or branches. But many persons prefer bean-poles to good trees, and so Messrs. Smith & Hanchett get up some of that kind to suit the popular idea of a good pear tree.

Dr. Boynton, the well-known lecturer on geology,

has a pear orchard of several thousand dwarf trees, near Syracuse, from which he last year obtained some of the most beautiful fruit we have ever seen. Those who were present at the Pomological Convention, in Philadelphia, September, 1860, will remember the display of large, brilliantly-colored pears, with very glossy, waxy skin, contributed by Dr. Boynton, and also the curious dissertation given by the Doctor upon the supposed cause of the color and gloss. This orchard we visited and examined. It is situated on an eminence or steep hill, covering the north and south sides. The trees are all planted on terraces, with excavations on the top of each terrace, to prevent the water from flowing off too suddenly in summer, while the soil is said to be so naturally porous as to drain off superabundant moisture freely. The manner of planting we thought bad, for several reasons, one of which is, that it effectually prevents all culture with the horse-hoe, or cultivator,—so essential to perfect success in this kind of orcharding. As a consequence, the field was allowed to run into wild grass, weeds and thistles, all of which are unsightly and injurious. Again, terraces with basins for holding water, must be too wet in cold wet weather, and too dry in a season of drouth. We must state, however, that the Doctor, in consequence of domestic afflictions, personal illness, and losses occasioned by the Southern Rebellion, has been prevented from giving his usual attention to this orchard for several months past, and it was not seen by us in its best or proper condition. The trees, however, looked very well, as a general thing, and apart from a vicious system of pruning, called "forming pyramids," which is advocated in nearly all works on fruit-culture, and almost universally practiced in New York, furnished good evidence that dwarf pear-culture was by no means a failure. Neither here nor on the fruit orchard at Smith & Hanchett's, was there any thing like a crop of fruit, the blossoms having been nearly all destroyed by the spring frost,—nor were the specimens of fruit which escaped the frosts of the ordinary size or beauty. As to the cause of the brilliant coloring which has distinguished Dr. Boynton's fruit heretofore, and the remarkably polished and waxy appearance of the skin, the Doctor attributes it to the peculiar geological composition of the soil, and the free use of potash, soda and superphosphate of lime in the composts which he has applied. The circumstances alluded to are remarkable, and we hope the Doctor will investigate the probable causes of his peculiar success with much care.

At Syracuse native grapes are cultivated pretty extensively in small vineyards, on high trellises, in the gardens about the city; and albeit, we have little faith in the value or success of such culture, in

the gratification to be obtained from it, or in the merit of the system of culture generally practised, we consented to look at some specimens of these vineyards. The result was by no means flattering to the reputation of the native grapes, or to the skill of the cultivators. We feel well assured that few or no well-ripened, palatable or digestible grapes can be produced from the varieties now cultivated, or under the system of training and pruning generally pursued. As a specimen of the culture which is adopted, we were shown the vineyard of one gentleman, who, we were told, had obtained from his vines the best native grapes ever seen in Syracuse. The method of culture was as follows: The vines were trained on trellises eight or ten feet high, with numerous rods running up from the roots (the rods, say, six or eight inches apart) to the height of the trellis, and then along the top of the trellis, in a mass, an indefinite length, rarely, if ever, stopped at the terminal point; but *all the main laterals were carefully cut out of the growing canes, close to the main eyes*, leaving only the main leaf at each eye! We remarked that this was a *novel* method of culture, to say the least of it, and asked why it was done. The gentleman said that he did not know, but it was "a way they had" in Syracuse, introduced by some German vine-dressers. We inquired if he could give any physiological reason for it, or quote any good authority which prescribed such treatment. He replied that he could not. He pursued this plan because others did, and all that he knew was, that he generally got a satisfactory crop of grapes. So plain a violation of the first principles of vegetable physiology and practical grape-culture it is not worth while to argue about. We only notice it to exhibit the deplorable state of native grape-culture, after all the efforts that have been made in this country to improve it.

GRAFTING ARBORVITÆS.

BY "PROPAGATOR."

IN the last nursery in which I was engaged before taking my present situation as a gentleman's gardener, evergreen propagation was a distinctive feature, and thousands raised annually by different modes, and as I left with the establishment a great deal of information that I have collected in my life, "free gratis and for nothing," there cannot be, I presume, any objection to my handing you a few notes occasionally for publication in your excellent journal, provided you think them worthy of acceptance.

In this letter I give you a mode of grafting arborvitæ, which I found very successful. In England we used to work these when the kinds were scarce on the *Thuja orientalis*, by cleft-grafting,—working

them an inch or so above the ground, and using composition wax in the usual way. Many of these would, nevertheless, fail. When the Golden Arborvite was first getting into popularity here, we wished to increase it faster than we could by cuttings. So I determined to operate on a lot of young American Arborvitæ we had in nursery rows. As early in spring as the frost was out of the ground, and the cold weather evidently passed away, the soil was taken away about an inch and a half from the stem of the young arborvitæ plants, and the plants themselves headed down to about a level with the surface of the ground. The graft was then inserted in the usual way of cleft-grafting, and after being tied with bast matting, the soil was drawn in about them, without any further coating of wax over the place of grafting. They had no further care, and grew beautifully. The great advantage of this mode was, that not only little bits too small to make into cuttings were used, but the plants grew on these strong stocks with such vigor, that they were as large in two years as they would have been in four, on their own roots, in the usual way.

[Certainly, we shall value highly a continuation of such useful hints.—ED.]

PRESERVATION OF ICE.

BY N. H. R., OF SPRINGFIELD, ILL.

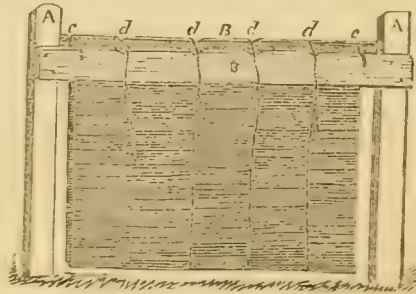
HAVING recently built an ice-house which has proved a failure, I have read with much interest the article in your September number on the above subject. My recent experience seems to confirm "J. C. B.'s" theory. My house is constructed on the idea, that heat can be sufficiently excluded by surrounding the ice with thick walls, and making the house as nearly air-tight as possible. It has 12-inch brick walls, with inside partitions six inches from the brick walls, the interval between the two walls being filled with pulverized charcoal. The roof is also thickened by charcoal between the shingles and sheathing. The drainage is well arranged and works well. The house has closely-fitting double doors. It is ten feet square on the inside. It was filled last winter with ice well packed. The ice lasted only until the middle of August.

I now desire to adopt the course suggested by "J. C. B.," and my present object is to ask of him (if he will be so kind as to answer my questions) some practical information on the subject, as follows: Of the different substances (shavings, saw-dust, charcoal,) with which he proposes to surround the ice, which is the best? How thick should the stratum be by which the ice is to be surrounded? It is the practice here with persons who pack ice in large quantities for sale, to put eight to twelve inches of

saw-dust between the ice and the walls of their houses. This, I presume, is much too great a thickness in the estimation of your correspondent. He says, "A layer of porous material must be put between stone walls and the ice, and provision made for the air to pass to the bottom of the structure." I do not quite understand this. Is other provision than the porosity of the material to be made for conducting air to the bottom of the ice-house? Say something on the shape of tubes. Does he advise that the doors of the ice-house be left constantly open? How thick should the covering over the top of the ice be?

If it is not agreeable to your correspondent to answer these inquiries, will you, Mr. Editor, answer them, or hand them to one of your correspondents, who is practical on this subject, for replies? Other persons beside the writer have encountered disappointment from building their ice-houses on a wrong principle, and your journal will be doing good service to the public if it becomes the medium of circulating correct theory and practice on this subject.

TO MAKE STRAW MATS.—Straw mats are often made for covering the hotbeds or cold frames, instead of bast-mats, and are found to be much better and cheaper. They can be made in the following manner:—Drive two posts (A, A) into the ground, eight or ten feet apart. The posts should be an



inch and a half to two inches wide. To these posts nail two boards (B, B), one on each side, so as to leave a space between them one and a half to two inches wide. Near each end of the boards, inside the posts, cut a deep, straight notch (c, c), to allow cutting the straw off straight at the ends. Notches (d, d, d) should be cut at intervals of about nine inches on the boards, say one inch deep, to keep the cords in their places. Tarred rope is best. Lay the straw on the cords between the boards in handfuls, and tie them tight with a single tie, reversing the strings; then put on another handful, and proceed as before, till the mat is made of the length desired. The last course should be tied with a double tie.—James Craik in *Genesee Farmer*.

The Gardener's Monthly.

PHILADELPHIA, OCTOBER 1, 1861.

All Communications for the Editor should be addressed, "THOMAS MITCHELL, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY, Box 406 Philadelphia."

Persons sending two new Subscribers for 1861 in addition to their own, will receive a copy of our First Volume, free of cost. A price of \$1.00 per annum is required for the first year, and \$2.00 for the second year, and \$2.00 for the third year, and so on.

THE VEGETABLE QUESTION CELERY.

STUDENTS on a certain musical instrument are usually cautioned against playing too much on one string. Horticulturists need similar advice at times. We have had the Strawberry Question, the Pear Question, the Grape Question, the Rose Question, and the Verbena Question, all very important and pertinent to horticultural pursuits; but we propose a change just now, and introduce the *Vegetable Question*.

We know that it has been a grave question with more than one horticulturist, whether the vegetable-garden should not be abandoned, and attention exclusively devoted to the flower and fruit departments. "Every cabbage," say they, "costs us a quarter. Our onions are always of the Silver-skin variety, with the silver even more than skin deep; and the egg fruit is evidently of no fabled goose, and yet none the less golden on that account."

We sympathize with these complaints. Vegetables grown in private establishments often do cost entirely too much. If the main object of a garden be to raise our articles of food, the satisfaction of having grown our own vegetables is a poor recompense in face of the fact that they cost us double the price they would have stood us in the market.

And yet, for all this, if we are to look at the question as one of mere produce and cost, all private vegetable-growing may as well be abandoned, as no gardener can raise them as cheaply as one who makes it a special study and a business, and who grows them in immense quantities. We need not even stop with vegetables; for it is as true of our fruits and our flowers, that, cultivate them as scientifically as we may, they will cost us more than it will those whose peculiar calling it is to raise them; and we might argue further against private carriages and horses, and even against individual homes the better, as communities and large landings

houses, on mutual principles, are decidedly cash-saving institutions.

But, keeping to the vegetable question, we are asked to think of the pleasure of raising them ourselves, as if our hat or our coat would be more valued by each man becoming his own tailor or hatter. We think that the true source of pleasure in a private vegetable-garden is superior excellence; and that if, with increased cost of production, this is not attained, the owner should either abandon his garden, his system of gardening, or change his gardener.

We make these remarks preparatory to describing a process of raising celery, that is not cheap, but excellent. Every stalk raised in the way described will probably cost six cents; so that those who would prefer to go in the market and buy one at three or four, need read no further. But to those who take pleasure in their gardens,—who are ever aiming at superiority,—who, in their experiments, are continually on the watch for new principles, that may afterwards be cheapened for the public good, and applied to other crops and other practices,—we make no apology on the score of the slightly increased expensiveness of the process.

To understand the advantages of the new mode, we will point out the disadvantages attendant on all the old ones. Celery loves an abundance of moisture, and it must be blanched. It is usual to continually water it overhead; but every cultivator knows that this tends to the baking and hardening of the soil, and continued stirring with the hoe and rake is necessary to counteract the evil, which, after all, is never entirely remedied. Then the blanching process usually employed, however varied in the mode, is attended by two serious evils. Blanching, to be effective, requires only the exclusion of light; but when earth or material is closed up around the celery plants, the air and all is excluded. The consequence is, that celery becomes pithy, insipid, and very difficult of preservation.

The other evil is, that by the earthing process, the rootlets are buried up far beneath the surface, and are dependent entirely on what little the soil contains for its growth and nutrition.

The following process obviates all these objections. See fig. 1. A level piece of ground is chosen, and well manured all over. The usual trenches are discarded, and the plants set right on the surface two feet apart. Common pipe draining-tiles are then procured, and after drawing a hoe through the loose ground directly between each row, the tiles are set, as in the sketch, nearly level with the surface. When it is desired to water, it is poured through the pipe, (one end being closed tight,) and the water percolates through the tiles into the soil, and

through and amongst the roots, keeping the soil thoroughly moist, while the surface around the plant is thus left porous and loose as ever. But these tiles perform another important function, which will appear in the sequel.

When the plants have grown quite long, common horse-shoe draining-tiles are employed, as shown in the plan for the blanching process. They are set edge to edge on the opposite sides of the row, a slight earthing being employed to keep them in an upright position. Towards autumn, when the leaves begin to fall from the trees, they are collected and thrown in between the rows, and thus all light is entirely excluded, while air will pass down the tube and around the stems of the plants, rendering them firm and solid in the midst of a perfect blanching process. Any litter will do as well as leaves.

Fig. 1.

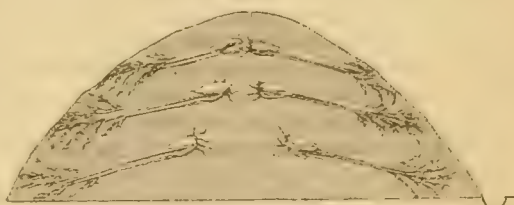


It is now that the pipes serving as water-conduits prove of value. While air is excluded by the superincumbent mass of matter, it passes through the open pipes and completely aerates the roots, causing them to grow in a surprising manner. The friend who gives us the plan as he pursued it in Germany, tells us that the roots often form so complete a mass inside the pipes by the time the celery is full-grown, as to entirely choke them; and the whole vigor of the plant and crispy sweetness of quality is such as will enable those of our readers who have followed our description to prepare a "surpriser" for those who left off reading at the point where we spoke of the increased expense of the plan.

To make the subject of celery improvement complete, another friend asks us to tell his fellow-readers of the *Gardener's Monthly* how he preserves celery fresh and plump till April, and time to sow celery seeds again; and as we think the plan founded on sound principles, and as, moreover, he has tried it in the balance and not found it wanting, we cheerfully comply. Fig. 2 gives the idea.

An elevated piece of ground is chosen, where the water can easily run off. A double row of celery is then laid along on the ground, each row slightly elevated to throw out any moisture that may chance to get in. A thin layer of soil is then thrown over, and another layer of celery, setting each layer a little further in than the one below it, so that, when finished, the whole stack will form a ridge. Soil is then cast over the whole, and "banked" or smoothed over. In order to guard still more against wet, a small gutter is dug around the ridge, to carry off the water. A covering of corn-stalks or any waste litter will exclude frost, and on an occasional fine day through the winter the "cairn" may be opened, and a supply for a week or so taken out.

Fig. 2.



KILMARNOCK WEeping WILLOW.

[SEE FRONTISPIECE.]

We give this month an engraving of what we consider, without exception, the hand-somest weeping tree in cultivation. It has been in the country some years, but is so seldom seen in proportion to its real

merits, that we deem it a duty to place it prominently before our readers as we do.

In our own neighborhood we have recently seen some very fine specimens, which the owner obtained some years ago from the establishment of Ellwanger & Barry, Rochester, New York, to the well-known energy and enterprise of which firm, we believe, its early introduction, and dissemination so far as it has gone, have been mainly owing. The specimens alluded to we know the gentleman would not part with at any price, and they are the admiration of all who see them.

It appears to be a variety of the *Salix caprea*, or Goat Willow, and was first discovered in a bed of others by the Laings, of Kilmarnock, in Scotland.

THE NELUMBium LUTEUM. OR YELLOW EGYPTIAN LOTUS.

A FRIEND sends us a spirited sketch from the Philadelphia *Evening Bulletin*, of what, to strangers, is one of the "sights" of that city to tourists who have a taste for natural history and associations connected with ancient legends.

How or in what manner the plant first became naturalized near Philadelphia, has hitherto been a mystery. The first account of which we have any record of its existence there, is that it was noticed by Peter Kalm, the Swedish botanist, and after whom the *Kalmia* is named, in 1748. It was not known at that time to be found north of the Carolinas. If, therefore, it had been introduced from the South by any of the white settlers, it could not have had time to be so well established at Kalm's discovery but that that fact would have suggested itself to his acute mind, or at least to some of his fellow-explorers, Bartram, Marshall, &c.

That it does not exist nearer its southern locations than this, is, we think, proof that it was introduced by some one; as all aquatic plants, natural to our waters, have a very wide and regular distribution. The probability is, that it was introduced by the Indians, and if so, a curious inquiry might be started as to what motives prompted the introduction?

On the theory that the American Indians are of Asiatic origin, might not the sacred character given by these races, in that country, to the species of that region,—dedicated, as it was, to Isis and Osiris, have accompanied the emigrants to this country, and be transferred to this so nearly allied species? And if proof could be found that the Indians of this continent really had this supposed veneration for our Lotus, might it not prove a valuable fact in tracing the exact history of the American Indians? We throw out the hints for the benefit of ethnologists.

We may add, that tradition certainly fixes the neighborhood of the Philadelphia Lotus as a famous Indian rendezvous. On a hill about two miles from the spot the writer has often found flint arrow-heads, and it was, therefore, undoubtedly a place devoted to this species of manufacture. With these matter-of-fact remarks, we will introduce our writer's more flowery production:

The Floral Wonder of the First Ward.

A LOCAL ITEM, BY A "NECK" ROMANCER.

"HEAR the legend of the Lotus. It grows in the lonely meadows that border the Old Point Road, and spread, laced with languid creeks, their sheets of summer green to the Delaware. Into this desolate haunt the plant has wandered from Florida lagoons and the bayous of Indian islands, and here any year, in the ecstasy and passion of midsummer, the visitor may find it, as we did, holding its stately drawing-rooms, its shields of malachite, and crowns of dewy silver, all doubled in the polished pavement of the water.

"The flower is of the storied *Nelumbium* family, historic in Egypt and holy in India, revered by the Pharaohs three thousand years ago, and by the Buddhists in all Asia to-day. The vision of the Nile would be less fair in our eyes, were this shining lily lost from its borders, and without it a hundred delicate myths,—images of Brahma and Vishnu, and figures of plump, lazy-eyed goddesses of China and Japan, would topple over helplessly and be drowned; for the starry blossom is their float, and their boat, and throne. It is the puzzle of local botanists to discover how a tribe of this priestly family was ever moved to abandon the ancestral waters, and lay its exotic flowers upon the baptism of our Galilean font. But here it grows, distinct from any water lily known to the Northern States, haughty and lonely in the caress of an alien tide, and, waiting for our summer's most tropic hour, bursts, and heaves a fortnight's wonder on the waves.

"We had a friend at court, an habitué, who knew well the habitat and etiquette of this fragile nobility, and with that introductory advantage we secured a presentation, on a day that seemed created to cradle an oriental dream. The sky was a cup of stagnant fire. The heat was equatorial, and the air expanding and ascending left us hardly enough to feed our poor, practical lungs upon. The whole material of daylight seemed rising from us in impalpable fumes. An exhalation, such as ascends from the flats of Egypt in the time of their inundation, painted the far-spreading level with touches of mezzotinto and uncertainty, and laid an attenuated veil of mystery on all we saw, and, indeed, on all we felt. In fact, as we found afterwards, it was raining

not many miles to the north and to the south; but over the tender botany of the lands of rainless blue, the clouds, sparing for the lotus a focus of reeking calm, withdrew in a mighty cordon, and watched the moments of its culmination from afar. All round the horizon their piles of moulded Carrara lay motionless in statuesque quiet, and silently corroding away in the devouring fervor of the air.

"Through the lazy hours of such a day, we waited for the tempered relaxation of its heat, and then set ourselves in lagging motion towards the South. The road alluded to was once a capital artery, receiving a populous current from the Gloucester Ferry, but deserted now by all its old patrons,—the long-waist-coated yeoman and the coy equestriennes whose buckles and heel-slippers we cherish,—it marches disconsolately between a police of ditches, and turns neither to the right nor left till it reaches, a little further on than we need to trace it, the end of its downward career by a termination abrupt as any felon's. Along this disgraced thoroughfare, not without an accompanying society evoked from the gray doors of velvet tombs, and the limbo (wherever that may be) of those C-spring high-elbowed gigs and wonderful one-horse shays of antiquity, we and our fancies went musing, and so

"In the afternoon we came unto the land
In which it seemed always afternoon."

The lazy kine was cropping those delicate grasses which dry into the fine packing hay. Each footfall, as we crossed the meadows, splashed up a spray of light-limbed grasshoppers. Then, winding awhile by quiet creeks, whose pictured heavens were pierced by the spearheads of sagittate leaves, we went westward, till our guide suddenly lifted a hand of warning, and pointed where, lo! how still they slept!

"The water was paved with round emerald tables, from six to eighteen inches across, each bearing in its central dimple a ball of brilliant water, neither pearl nor diamond, but a new gem, crystalline silvery, ineffable; for the velvet texture of the leaf rejects liquids, which roll about like mercury, in glancing bullets, when the ripple stirs the broad palms in which they are held. If the leaves were dainty, what where the flowers? Gathered softly apart, all together, away from the buxom spatterdocks and the baser canaille of nameless water plants, the pallid Circassians rose from their baths, each with its delicate stem running down to link with a swaying reflection. Some closed their milky lips,—the baby-buds, who, when the white, intense sun should feed a little longer their tiny veins with cream, would reach the privileges of maidenhood, and let their petals pout further and further apart with the kiss of each lazy breeze. And some had ripened so far already, and

allowed you, in a cool cell of translucent white, to see the flaming topaz they wore upon their hearts. And a few had burst with pallid fury into mimic suns, and lay relaxed upon the water, five ivory inches over, raying from their yellow reals a slight of luminous petals.

"Certain venal *sans-culottes* had arrived before us, and, plunged into unfathomable Nilotic mud, were pulling at the pretty pipes, meaning to ravish a few dozen of the lilies for the slave-market. This strange flower, indeed, is not quite unknown, although most of the quiet Philadelphians go on longing for a sight of the haunted blossoms of the Nile, unconscious how near it waits for them in its covert of plated shields. A few of those noiseless students of Flora, however, the practical botanists whom most people consider bores because they go penetrating everywhere, are in the secret, and have let it out to us; and, far more captivating than they, a race of dreaming and expectant children, the true lotophagi, are hanging even now their hopes upon the mellowing lotus fruit. When the golden October comes, with its witching of hazy air that makes a glamour for all things and any landscape, we shall see these offspring of a poetic myth stretch out beside the creeks, breaking the tender hulls for their magical chincapins, and feeding on them and on the dreams of which they are the talismans. We know too well what will happen to these thoughtless youth, and the shadow that will fall upon the homes whose idea the enchanted food will obliterate from their memories forever.

"For ourselves, we shall always be furnished with a sympathetic association for the lotus, in the memory of the Japanese, whose figures have retired far enough by this time for us to appreciate the peculiar and delicate romance their pageant gave us. These languid exotics, whom we all remember, leaning all day from the stately windows of their great caravanserai, and, with the theatric lenses that so took their fancy, making an opera of all our earnest American life; those hovering groups of yellow phantoms, resting their taper fingers on the sills, but never, even to the lowest of their servants and porters, seeming to enter far enough into practical existence to make those fingers a degree less taper and delicate; no, but living right among us a life that could not be ours, and opening every morning their oriel eyes to a prospect we could never see,—they would have comprehended the lotus. We had fain bent the season to our scheme, and so have seen in some dark alien eye the image of a silver star, an appreciated reflection of the sacred flower of Buddha; so, to the most recondite study we have been granted in ethnology, these mysterious Flora would have been attached, and we should never again behold the

fairly flotillas of the lotus, without fancying before them an adoring shadow of a Mongolian, bowing to impalpable divinities afloat upon the jeweled barges."

Scraps and Queries.

Communications for this department must reach the Editor on or before the 15th of the month.

The Editor cannot answer letters for this department privately.

FIGS.—A *Subscriber, Philadelphia*, asks:

Will you please inform me if it would be safe to keep fig trees and oleanders planted in boxes in a cold grapery during the winter. The thermometer in the night sometimes falls to zero, and during the day rises to 40 or 50,—on mild days to 70 or 80.

If so kept, should they not be covered, so as to exclude the light? or would it be better to keep them in a warm, dry cellar? (1.)

Are fig trees in this latitude ever grown in the open ground? If so, how are they protected during the winter? (2.)

Which variety of the fig bears the largest fruit? (3.)

Is the exudation of gum in peach trees an infallible sign of the existence of the borer? (4.)

I have repeatedly examined my trees on seeing gum issuing from the collar, but without finding any insect. What can I do to protect them?

[1. There is danger of injury. Cover them with dry straw. The absence of light will be an advantage.

2. Often. To protect them, they are laid down and buried with soil. The plan followed here is to dig away the soil a little on one side, bend the plant down, and after pegging to keep them in place, cover with soil.

The following short piece, however, from our first volume, gives a neat German plan:

"PROTECTING THE FIG.

"The fig tree, in many of our city gardens, stands the winters perfectly well without protection; and with but very slight protection, could be grown much further north. We annex a cut of the mode adopted for this purpose in the north of Europe.

"The fig tree is kept by pruning rather dwarf and encouraged to branch near the ground, and in the fall the shoots or branches are tied in four bundles of equal size. A circular mound of earth is then thrown up around the base of the tree, and then the four bundles of branches are bent carefully down and covered about a foot or eighteen inches deep, so that when completed, the earth will present the appearance as shown in the engraving annexed."



3. The White Ischia is the largest and best grown in this vicinity.

4. Any injury produces gum; very often it occurs where no borers exist. Small wire-worms or species of centipedes often injure peach trees at the collar sufficiently to cause gumming. Tar or grease in small quantity, mixed with the soil near the stem of the tree, would, doubtless, keep them away.]

PEACHES—From *Mr. E. Tatnall, Wilmington, Del.*—"Miller's Early," equal in size, flavor and appearance to Crawford's Early, but, Mr. Tatnall says, earlier.

"Letitia" and "Tally-ho," good, but we could observe no quality in which they were superior to others of the same season. One without a name, with an uninviting appearance, seemed the best of the lot.

PEACHES—From *Chambersburg, Pa.*—Mr. Jacob Heyser sent us a box September 5th. A tolerably good peach, far superior to the old Melocoton, with which we compared it on receipt. The flesh is firm, and it carries well, having reached us by express, after several days' journey, as fresh as when gathered from the tree. It appears distinct from any kind we know of. The following note came with the fruit:

"I send to you this day half-a-dozen peaches of a variety that has been cultivated in this town some fifteen years. The original tree was completely broken to pieces by over-bearing, and was a constant bearer, always having fruit when there was any other fruit in the vicinity. The fruit sent is about medium size, at least the smallest. I have taken some from the tree measuring from nine to

nine and a half inches in circumference, and the tree quite full. The tree stands in the yard of Dr. J. L. Suesserott, of this place, and is so situated as to get all the afternoon sun, but none of the morning. The tree is six years old from the bud, and has borne fruit for the past three years in succession. We call it the George Forney Peach. The tree is a good, strong grower, and has never known disease."

COLD PITs—N. T. C., *Canada West*, inquires:—Can a pit for protecting plants through winter be built to answer the purpose where the water for several weeks in early spring stands within two feet and a half of the surface, and where drainage is impossible? If so, what would be the best mode of construction for the locality? (1.)

Would there be any disadvantage in placing it where it would be covered nearly the entire winter by snow-drifts sufficient to prevent the admission of fresh air, except at rare intervals? Is a double thickness of glass indispensable? (2.)

[1. We should build a pit, under such circumstances, above the ground, and bank it all around with a few feet thickness of earth, sodding it all over to keep the earth from washing away or becoming loosened by action of frost.

2. There would be no disadvantage in building it where snow would likely drift, unless the pit was not *mouse-proof*, in which case they would probably cut up some high capers, under so long a time of being undisturbed, and, perhaps, make nests of your choicest verbenas.]

AERIAL ROOTS FROM THE NATIVE GRAPE—Dr. Wheeler, *Burlington, Vermont*, writes:—"I passed the months of March and April at Fayetteville, N. C., and while there interested myself in examining the Scuppernong Grape-vine. On some of the most perfect vines which I saw in the grounds of the United States Arsenal I was greatly surprised to perceive numerous filaments, or aerial roots, dependent from them. This, to my unpracticed eye, was entirely new and unaccountable. The gardener, in reply to my inquiry, said that those filaments were of various lengths, from eighteen inches to three feet, and on reaching the ground would take root; but he did not know whether they would produce a bearing vine.

The appearance was so new and surprising to me, that I cut from the top a number of these aerial roots, for the purpose of verifying their character, and on my return, addressed a note on the subject to Prof. Asa Gray, of Harvard University. From him I received the following reply:

CAMBRIDGE, June 10th, 1861.

My Dear Sir:

The "filaments" you sent are clearly, both from your account

and from their structure, *aerial roots*, as you asserted. Such are produced on some tropical species of Vites, but were unknown to me on the Scuppernong or any other North American grape; nor do I find any allusion to them by Chapman or Dr. Curtis.

Do the aerial roots ever strike out from branches of the vine only two or three years old? If so, the vines might be propagated with more than ordinary facility by layering. I should like to communicate this fact to the Rev. Dr. M. A. Curtis, of Hillsboro, N. C., but I see no prospect of doing so until our armies penetrate as far South as Raleigh.

I wish you would write an account of the thing to the editor of the *Gardener's Monthly*, Thomas Meehan, Germantown, Pa.

Very truly yours,

ASA GRAY.

REV. DR. WHEELER.

Dr. Gray's inquiry as to whether they appear on young vines, I cannot answer.

I beg to add, that the existence of these aerial roots has not been observed, so far as I have been able to learn, by the cultivators of the vine. They are regarded as filaments belonging to the bark, and in the season of the grapes are torn off and thrown aside, because in the way. Hence it would be difficult, without careful search, to find them more than a few inches in length. They are probably considered of the nature of tendrils. I enclose you a specimen, and am, sir,

Yours, &c.,

JOHN WHEELER."

[The root enclosed in the above communication was about two feet in length. We have never before noticed them on any North American species, though, when under cultivation, most of the Asiatic species produce them under certain circumstances.

The common hothouse grapes, for instance, when the roots of the vines are in the open ground entirely outside the house, and the vines subjected to a high moist temperature inside, throw out aerial roots freely, and in proportion to the difference of temperature between the vine-border and the atmosphere of the vinery, is, usually, the length of these roots. Practised gardeners, therefore, usually interpret this appearance to mean "something wrong at the roots." The reason probably is, that the organized sap, checked in its descent by the inactivity of the lower vessels, is forced through the bark in the shape of these aerial roots.

We have observed a similar circumstance in the common willow. Very old specimens are frequently hollow, and in the interior, aerial roots several feet in length to the ground, often occur from the sap, checked in its descent, making for itself an outlet in that form. It is quite possible, therefore, that in the present case, the production is abnormous, and depends on some peculiar state or condition of the vine rather than to regular rule, and we shall be obliged by the further observations of correspondents who may have opportunities of observing the growth of the Scuppernong Grape, as to its frequency or otherwise.]

INSECTS.—We received, last month, from Delaware County, Penna., unknown insects. Miss M. H. Morris, the entomologist, very kindly furnishes the following account of them:

"The small flies which you left with me a few days since, belong to the order Hemiptera, and of that branch of the Aphididæ, or Plant Lice family, called Psylla, which have the power of leaping. They are not so prolific as the other plant lice, as they usually produce only one brood in a year. They live in groups upon the leaves and stems of trees on which they feed, drawing the juices from the plant by means of a tubular sucker, situated on the breast, between the front legs. They differ from the leaf hoppers in their appearance and formation, having their bodies very soft and more or less oval, with large transparent wings which cover the sides of the body like a roof. The antennæ are long, thread-like, and tipped with two short bristles at the end. Both sexes have wings when they arrive at maturity. The females are provided with piercers, with which they pierce the leaves when about to deposit their eggs, which sometimes produce little swellings resembling galls. Dr. Harris speaks of a species in Massachusetts, that were very injurious to the pear trees a few years since, but as yet they have not made their appearance here."

PROTECTING GRAPES IN VINERIES.—*J. J., Cleveland, O.*, writes:

"This spring I planted a vineyard of Black Hamburg grapes. Will you please inform me in your October number of the *Gardener's Monthly* if they will require any more protection than the glass, in case I do not have any fire in the house till I start them in spring? Also, what protection they will need, or what method is usually adopted for them?" (1)

Also, what would be an average height for a vineyard back wall, as I intend to build another one in spring?" (2)

[1. They will require no more protection.

2. Twelve feet.]

PROTECTION TO DORMANT ROSE-BUDS.—*P. P., Jamaica Plain, Mass.*—Where there are only a few choice ones, a piece of cotton-wadding tied over the bud is a simple and effective protection. In larger quantities, the best plan is to take them all up and heel them in thickly in some place where they can be protected by brushwood or other litter. Failures sometimes occur in plants laid in, by too damp a place being chosen. The ground for heeled in plants of all kinds should be "high and dry."

NAME OF PLANT.—*J. G. L., Mount Union, Pa.*—*Datura (Brugmansia) suaveolens.*

AQUATIC PLANTS.—*M., Cannelburg, Pa.*, inquires where he can buy aquatic plants for stocking an aquarium? Most nurserymen in almost all our large cities could probably supply them, as, if they do not happen to have them themselves, they usually know where to get specialties when ordered. There are many beautiful plants, in every one's neighborhood, quite as rare to the general observer as if brought from abroad; any botanical friend of the vicinity would probably indicate their whereabouts. *Heteranthera reniformis*, *Schollera graminea*, *Potamogeton natans*, *Anacharis Canadensis*, *Vallisneria spiralis*, Charas, and others, for instance, are easily obtained in this way.

PEACHES FOR ORCHARD HOUSE.—*A "Subscriber."*—Will you please give a list of Peaches suitable for pot-culture? Likewise, the best twelve peaches for planting in the peach-house, all on plum stock? and if all peaches and nectarines do alike well on plum stock?

[Try Chancellor, Crawford's Early, Druid Hill, Early York, Early Newington, Eliza, George IV., Grosse Mignonne, Morris White, Morris Red, Noblesse, Old Mixon Free. There may be others to do as well or even better than these, but these we do know to be good for your purpose. We believe all do equally well on the plum stock.]

PLUM, BOWERS' GAGE.—Several friends have called our attention to this variety, so named by the parties who are growing it, through having received it from its raiser, Mr. Bower, of Philadelphia. It very closely resembles Lawrence's Favorite in every respect, and we think scarcely worth a separate name and distinction. Like that excellent kind, it is probably a seedling from the Green Gage. Wherever it has been grown the past few years it is remarkably productive, and though the fruit is evidently as freely "stung" by the curculio, shows no tendency to rot in consequence. However, we are forced to the conclusion that any one variety when in a perfectly healthy state, will as easily resist injury from the curculio as another. A slight tendency to ill health evidently adds to the injury the insect does.

ABRONIA UMBELLATA.—In our last, in answer to a correspondent, we stated that this beautiful plant was not yet in cultivation. We find that it has been grown by several parties in the Eastern States the past season, from seeds imported from Europe, but it had somehow escaped our observation.

TROTHER'S EARLY RED PEACH.—*Isaac P. Ten, Hightstown, N. J.*— "I send two specimens of

Troth's Early Red Peach, one of which has a sprig with a few leaves. It is the first that ripens, of value, for market purposes. The same fruit ripens in Caroline County, Maryland, about the first of August.

[The fruit was of medium size, firm in flesh, and excellent, but so much like what we have known as Haines' Early Red, that we are either mistaken as to the identity of the latter, or it is the same. We believe there are several supposed varieties so nearly or quite alike, but with different names, that we make the suggestion in order that another season the confusion may be cleared up.]

THE FILLMORE STRAWBERRY—A "Subscriber," Baltimore, Md., says he has been misapprehended as having spoken disparagingly of this variety in his article in the September number. He writes that this is a great mistake, and that it gives him pleasure to commend that variety as a very superior berry.

ERRATA.—In the past articles by our correspondent "L," the following typographical errors occur, which the reader will please correct in their proper pages:

Page 168. 28th line from top, first column, for Solundea read *Solandra*, and for Husselquist read Hasselquist.

do. 7th line from bottom, 1st column, for mother read *master*.

Page 178. 21st line from top, 1st column, for commit read *connect*.

do. 32d line from top, 1st column, for grapes read *grasses*.

Page 179. 12th line from bottom, 1st column, for Antwaht read *Antwerp*.

NAMES OF PINES—"Tyro."—There is no difference. *Abies orientalis* and *A. Whitmaniana* are one and the same. The former is the name it is generally known by all over Europe, except England, and is the one most general in this country.

PEACH—From Wilmington.—As we send this chapter to press, September 10th, we receive a box of fruit from Wilmington, Del., no letter to indicate from whom. It resembles *Grosse Mignonne*, but is evidently later than that popular favorite, and we think in general qualities would compare favorably with it. Altogether, combining beauty and general qualities of fruit, we consider it the best we have received this year.

SICKNESS AND DEATH in the family of the Editor, will explain to many correspondents and friends, why their favors have been temporarily unnoticed, or not privately acknowledged.

Books, Catalogues, &c.

[Concluded from page 283.]

ON THE SOURCES OF THE NITROGEN OF VEGETATION; with special reference to the Question whether Plants Assimilate Free or Uncombined Nitrogen. By John Bennet Lawes, Esq., F. R. S., F. C. S.; Joseph Henry Gilbert, Ph. D., F. R. S. F. C. S.; and Evan Pugh, Ph. D., F. C. S.

Turning to their direct experiments on the question of the assimilation of free nitrogen, the Authors first consider whether such assimilation would be most likely to take place, when the plant had no other supply of combined nitrogen than that contained in the seed sown, or when supplied with a limited amount of combined nitrogen, or with an excess of combined nitrogen? And again—whether at an early stage of growth, at the most active stage, or when the plant was approaching maturity? Combinations of these several circumstances might give a number of special conditions, in perhaps only one of which assimilation of free nitrogen might take place, in case it could in any.

It is hardly to be supposed that free nitrogen would be assimilated if an excess of combined nitrogen were at the disposal of the plant. It is obvious, however, that a wide range of conditions would be experimentally provided, if in some instances plants were supplied with no more combined nitrogen than that contained in the seed, in others brought to a given stage of growth by means of limited extraneous supplies of combined nitrogen, and in others supplied with combined nitrogen in a more liberal measure. It has been sought to provide these conditions in the experiments under consideration.

In the selection of plants, it was sought to take such as would be adapted to the artificial conditions of temperature, moisture, &c., involved in the experiment, and also such as were of importance in an agricultural point of view,—to have representatives, moreover, of the two great natural families, the Graminaceæ and the Leguminosæ, which seem to differ so widely in their relations to the combined nitrogen supplied within the soil; and finally, to have some of the same descriptions as those experimented upon by M. Boussingault and M. G. Ville, with such discordant results.

Thirteen experiments were made (four in 1857 and nine in 1858) in which the plants were supplied with no other combined nitrogen than that contained in the original seed. In twelve of the cases prepared soil was the matrix, and in the remaining one prepared pumice;

Of nine experiments with Gramineaceous plants, one with wheat and two with barley were made in 1857. In one of the experiments with barley there was a gain of 0.0016, and in the other 0.0026 gramme of nitrogen. In only two cases of the experiments with cereals in 1858, was there any gain of nitrogen indicated; and in both it amounted to only a small fraction of a milligramme. Indeed, in no one of the cases, in either 1857 or 1858, was there more nitrogen in the *plants themselves*, than in the seed sown. A gain was indicated only when the nitrogen in the soil and pot, which together weighed about 1500 grammes, was brought into the calculation. Moreover, the gain only exceeded one milligramme in the case of the experiments of 1857, when slate, instead of glazed earthenware, stands were used as the lute vessels; and there was some reason to believe that the gain indicated was due to this circumstance. In none of the other cases was the gain more than would be expected from error in analysis.

The result was, then, that in no one case of these experiments was there any such gain of nitrogen as could lead to the supposition that *free* nitrogen had been assimilated. The plants had, however, vegetated for several months, had in most cases more than trebled the carbon of the seed, and had obviously been limited in their growth for want of a supply of available nitrogen in some form. During this long period they were surrounded by an atmosphere containing free nitrogen; and their cells were penetrated by fluid saturated with that element. It may be further mentioned, that many of the plants formed glumes and paleæ for seed.

It is to be observed that the results of these experiments with cereals go to confirm those of M. Boussingault.

The Leguminous plants experimented upon did not grow so healthily under the artificial conditions as did the cereals. Still, in all three of the cases of these plants in which no combined nitrogen was provided beyond that contained in the original seed, the carbon in the vegetable matter produced was much greater than that in the seed,—in one instance more than three times greater. In no case, however, was there any indication of assimilation of free nitrogen, any more than there had been by the Gramineaceous plants grown under similar circumstances.

One experiment was made with buckwheat, supplied with no other combined nitrogen than that contained in the seed. The result gave no indication of assimilation of free nitrogen.

In regard to the whole of the experiments in which the plants were supplied with no combined nitrogen beyond that contained in the seed, it may

be observed that, from the constancy of the amount of combined nitrogen present in relation to that supplied, throughout the experiments, it may be inferred, as well that there was no evolution of free nitrogen by the growing plant, as that there was no assimilation of it; but it cannot hence be concluded that there would be no such evolution if an excess of combined nitrogen were supplied.

The results of a number of experiments, in which the plants were supplied with more or less of combined nitrogen, in the form of ammonia-salts, or of nitrates, are recorded. Ten were with cereals; four in 1857 and six in 1858. Three were with Leguminous plants; and there were also some with plants of other descriptions—all in 1858.

In the case of the cereals more particularly, the growth was very greatly increased by the extraneous supply of combined nitrogen; in fact, the amount of vegetable matter produced was eight, twelve, and even thirty times greater than in parallel cases without such supply. The amount of nitrogen appropriated was also, in all cases many times greater, and in one case more than thirty times as great, when a supply of combined nitrogen was provided. The evidence is, therefore, sufficiently clear that all the conditions provided, apart from those which depended upon a supply of combined nitrogen, were adapted for vigorous growth; and that the limitation of growth where no combined nitrogen was supplied was due to the want of such supply.

In two out of the four experiments with cereals in 1857, there was a slight gain of nitrogen beyond that which should occur from error in analysis; but in no one of the six in 1858, when glazed earthenware, instead of slate, stands were used, was there any such gain. It is concluded, therefore, that there was no assimilation of free nitrogen. In some cases the supply of combined nitrogen was not given until the plants showed signs of decline; when, on each addition, increased vigor was rapidly manifested. In others the supply was given earlier and was more liberal.

As in the case of the Leguminous plants grown without extraneous supply of combined nitrogen, those grown with it progressed much less healthily than the Gramineaceous plants. But the results under these conditions, so far as they go, did not indicate any assimilation of free nitrogen.

The results of experiments with plants of other descriptions, in which an extraneous supply of combined nitrogen was provided, also failed to show an assimilation of free nitrogen.

Thus, nineteen experiments with Gramineaceous plants, nine without and ten with an extraneous supply of combined nitrogen,—six with Leguminous plants, three without and three with an extraneous

supply of combined nitrogen, and also some with other plants, have been made. In none of the experiments, with plants so widely different as the Gramineaceous and Leguminous, and with a wide range of conditions of growth, was there evidence of an assimilation of free nitrogen.

The conclusions from the whole inquiry may be briefly summed up as follows:

The yield of nitrogen in the vegetation over a given area, within a given time, especially in the case of Leguminous crops, is not satisfactorily explained by reference to the hitherto quantitatively determined supplies of *combined* nitrogen.

The results and conclusions hitherto recorded by different experimenters on the question whether plants assimilate *free* or *uncombined* nitrogen, are very conflicting.

The conditions provided in the experiments of the authors on this question were found to be quite consistent with the healthy development of various Gramineaceous plants, but not so much so for that of the Leguminous plants experimented upon.

It is not probable that, under the circumstances of the experiments on assimilation, there would be any supply to the plants of an unaccounted quantity of combined nitrogen, due to the influence either of ozone, or of nascent hydrogen.

It is not probable that there would be a loss of any of the combined nitrogen involved in an experiment on assimilation, due to the evolution of free nitrogen in the decomposition of organic matter, excepting in certain cases when it might be pre-supposed.

It is not probable that there would be any loss due to the evolution of free nitrogen from the nitrogenous constituents of the plants during growth.

In numerous experiments with Gramineaceous plants, under a wide range of conditions of growth, in no case was there any evidences of an assimilation of free nitrogen.

In experiments with Leguminous plants the growth was less satisfactory, and the range of conditions was, therefore, more limited. But the results with these plants, so far as they go, do not indicate any assimilation of free nitrogen. It is desirable that the evidence of further experiments with such plants, under conditions of more healthy growth, should be obtained.

Results obtained with some other plants, are in the same sense as those with Gramineaceous and Leguminous ones, in regard to the question of the assimilation of free nitrogen.

If in view of the evidence afforded by the non-assimilation of *free* nitrogen by plants, it is very desirable that the several actual or possible sources whence they may derive *combined* nitrogen should be

more fully investigated, both qualitatively and quantitatively.

If it be established that plants do not assimilate free or uncombined nitrogen, the source of the large amount of combined nitrogen known to exist on the surface of the globe and in the atmosphere, still awaits a satisfactory explanation.

PATENT OFFICE REPORT FOR 1860 contains chapters on the "*Operations of the Experimental Garden.*" If this were an institution for "experimenting," we should hail it as a national blessing; but from what we can gather from the "Report," it has no such objects. The main idea seems to be to "propagate for distribution." It says of the tea-plant hobby: "32,000 seedling plants were distributed in 1859-60." "Little can be said of them beyond the fact that they are alive and prospering," which, as every one knows the tea-plant has been "alive and prospering" in the Southern States for the last fifty years, must be supposed to be cheap information. "In a number of instances, the plants were placed in the ground as received from the garden, with the moss and packing around them, and have, of course, never exhibited life." "8000 plants have been propagated from cuttings, and a like number will be raised to be distributed annually to replace losses, until private interest shall discover in the enterprise an effectual incentive to its effectual prosecution." Verily, it will be a long time before "private interest" will prove any incentive to raising and distributing gratuitously plants to parties who set plants, packing and all in the ground, and expect to raise therefrom chests of tea.

That the tea-plant will live and prosper in our country south of Washington, is well known. The only question never yet answered satisfactorily, but which, so far, has been answered negatively, is, Can tea be *prepared* as cheaply here as it can be imported? If the "Experimental" would answer that for us, it would soon find "private enterprise" ready with the plants, and buyers for them.

We are utterly opposed to this scattering of thousands of dollars annually over the land, on the haphazard principle, that probably one dollar may some day produce a return, and repeat what we have said in former issues of our journal, that it is time an end was put to this folly.

A Chapter on Fertilizers, by the Hon. Thos. Clemson, of South Carolina, is one of the best abstracts of what is known of the subject up to the present time that we have seen, and is filled with statistical tables that will be of great service to experimental agriculturists.

An original feature is a chapter entitled "*Notes*

on the *Progress of Agricultural Statistics*," by David A. Wells, Troy, New York. In this those who have had the preparation of the report have, for the first time, we think, approached the idea of what such a production should be, a sketch of the real progress of the nation in practical agriculture.

Observations on English Husbandry, by H. F. French, will have a beneficial influence on those of our farmers who will divest themselves of prejudice against "foreign" notions, and, prepared to test all things and hold fast to that which is good, contrast the superiority or inferiority of differing national practices, and profit by the result.

Irrigation, by E. G. Smith, is an epitome of what is known in Europe on the subject.

Grasses for the South, by Rev. C. Howard, is mainly a defence against the charge that the well known agricultural ruin of the South is caused by negro slavery. "Land," he says, "does not command an average of five dollars an acre in Georgia, and generally decreases in value, rather than rises by agricultural operations on it." He contends, nevertheless, that intelligence is of little moment in the agricultural laborer, so that the man who directs the labor is enlightened; and that the great cause of their depression is the want of stock on their farms.

Dr. Emerson, of Philadelphia, gives a chapter on the *Cattle Disease*. W. Buckisch, of Texas, on *Bee Culture*. *Fish Culture*, translated from the German of Dr. Fraas. Mr. P. R. Uhler, Baltimore, *Insects Inferior to Vegetation*. *Wine-Making*, translated from the German. *Grape-Culture and Wine-Making*, by D. G. Goodloe, Washington, D. C., who acknowledges to its being an abstract of the old treatise of Henderson; a rare specimen of honesty when the course of other writers in back volumes of the reports is considered. It is a very useful chapter. *Culture of Grapes in Graperies*, by Dr. Parker, Utica, N. Y., is a well written chapter, full of details which will have the effect of drawing close attention to the advantages of graperies in the more agricultural point of view. The theory of the Doctor as to the causes that lead to the necessity of graperies on this continent may be open to a little criticism, but that is not of much moment so far as the practical good likely to result from the article is concerned.

The Forest Trees of America. By Dr. J. G. Cooper, of Hoboken, N. J., is one of the most original and valuable papers ever honoring a Patent Office Report. It is accompanied by a map showing the distribution of the species over the whole continent as near as can be.

Tea, by S. Bonsall, of Philadelphia, goes into the whole culture and management of the article.

Chinese Agriculture. Agricultural patents and donations to the "experimental" closes the volume. Altogether, it is the best ever issued by the department, and affords hopes of progress in that quarter.

ADDRESS ON THE EPIZOOTY, LATELY PREVALENT AMONG SWINE, by Edwin M. Snow, M. D., and G. L. Collins, M. D., of Providence, R. I. Read before the Rhode Island Medical Society, June 19, 1861.

ANNALS OF THE BOTANICAL SOCIETY OF CANADA, Vol. I., Part II. We should be much obliged by the additional favor of the first part of this very interesting serial. We are very glad to find by it that the utility of the society is at least demonstrated, and it has our best wishes for its permanent success.

TRADE LISTS RECEIVED.

Isaac Jackson & Co., Harmony Grove, Penna. Daniel Engle, Marietta, Pa. Bailey & Bro., Wilmington, Del. E. J. Evans & Co., York, Pa. L. Ellsworth & Co., Naperville, Ill. H. Southwick & Sons, Dansville, N. Y. E. Moody & Son, Lockport, N. Y. A. F. Conard & Bro., West Grove, Pa. J. L. Darlington & Co., West Chester, Pa. O. B. Maxwell & Co., Dansville, N. Y.

DESCRIPTIVE CATALOGUE OF E. Y. TEAS, Richmond, Indiana.

THE HORTICULTURIST.—Our contemporary has changed owners, Mr. George E. Woodward conjointly with the editor, Mr. P. B. Mead, having purchased it of Mr. Saxton. Mr. Woodward is known to our readers by his excellent articles on landscape-gardening, and as he will be associated with Mr. Mead in the editorship also, we are assured that the reputation of the magazine will lose nothing by the change.

New or Rare Plants.

PENTSTEMON SPECTABILIS (*Shrubby Pentstemon*).—*Nat. Ord.*, Scrophulariaceæ. *Linn.*, Didynamia Angiospermia. "A lovely Californian species." Flowers numerous, in a panicle, on a stem nearly two feet high. Introduced by Messrs. Low, of Clapton, where it flowered last May.—*Botanical Mag.*, t. 5260.

DENDROBIUM HILLII (*Mr. Hill's Dendrobium*).—*Nat. Ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria. Named after Mr. Walter Hill, Superintendent of the Botanic Garden at Moreton Bay, who sent it to the Kew Gardens. Flowers white.—*Ibid.* t. 5261.

CRINTHE RETORTA (*Curved-flowered Crinthe*).—*Nat. Ord.*, Boraginæ. *Linn.*, Pentandria Mono-

gynia. Hardy herbaceous plant eighteen inches high. Racemes of flowers terminal, recurved; bracts large, blue; corollas yellow, tipped with reddish-purple; "leaves glaucous green, spotted like those of a *Pulmonaria*. It is a native of Caria, in the Peloponnesus, where it was found by Sibthorp; and in wooded places in Dalmatia, according to Viviani. Lovers of hardy plants will do well to rear this in the open borders of their gardens. It is [best treated as an] annual, may be increased by seeds, and should be planted in tufts. Our plant was raised from seed sent to us by Mr. Thompson, of Ipswich."—*Ibid.*, t. 5264.

CHYSIS AUREA, var. *LEMMINGHEI* (*Lemming's Golden-flowered Chysis*).—*Nat. Ord.*, Orchidaceæ. *Linn.*, Gynandria Monogynia. Named in honor of Count Lemminghe. Instead of the flowers being golden colored, they are nearly white or cream colored, the lip only being tinged with yellow; purple or lilac blotches are on the sepals and petals, and dark purple streaks and spots inside the labellum. Sent to Kew from Hamburg by Mr. Schiller.—*Ibid.*, t. 5265.

GOMPHIA OLIVIFORMIS (*Olive-fruited Gomphia*). *Nat. Ord.*, Ochraceæ. *Linn.*, Pentandria Monogynia. It has also been called *G. decorans*. Native of Brazil, introduced by Messrs. Hendersons, Wellington Road Nursery. "It produced its panicle of bright yellow flowers in the Kew stove during May of 1861."—*Ibid.*, t. 5262.

CALADIUM BICOLOR, var. *VERSCHAFFELTHI* (*Verschaaffelt's Two-colored Caladium*).—*Nat. Ord.*, Aroidæ. *Linn.*, Monœcia Monandria. Sent to Kew by M. Chantin, of Paris. "Upon the deep green ground of the blade of the leaf are numerous irregular blotches of a rich blood [almost carmine] color, the largest of which are ocellated—that is, have little eye-like spots of green in their centres."—*Ibid.*, t. 5263.

CEREUS MACDONALDII has again flowered in our collection, and much finer than last year. The flower measured *thirteen inches in diameter* from tip to tip of the sepals. It is certainly a very showy and desirable species, not so highly colored in the sepals as *C. grandiflorus*, but in size very much larger. It blooms at night like the latter.—*Hovey's Magazine*.

Foreign Intelligence.

TO PRESERVE SCARLET RUNNER BEANS THROUGH THE WINTER FOR AN EARLY CROP.—Some few years ago, in the month of November, when digging the ground where the crop of runners had grown, I could not help noticing the large size of the roots; and it occurred to me that, if I took them

up, potted them, and kept them in a cold pit during the winter, they might furnish another crop the following spring. I tried the experiment on two of the best roots, potted them, and kept them in a cold pit until the 1st of February. At that time I placed them in a hothouse, in which the average temperature was about 60 degrees. They soon began to send up strong shoots, and to show flower in abundance from the ground upwards. In May they were twelve feet high, and made a very good appearance in greenhouse, where they passed with many for a new species of plant.

If I had saved thirty or forty roots, and had put them in heat in spring, in the manner done with Dahlias, and if I had turned them out in the open air about the same time that these plants are turned out, I certainly should have been able to gather kidney beans a month sooner than is done by the usual practice of sowing in the open garden.

In cottage gardens, the roots might be taken up every autumn, and preserved in the same way as those of potatoes; and, by being planted on a fresh piece of ground in spring, they would not only produce a much earlier, but a much more abundant crop than one raised from seed.

[We give the above from an English journal in order to suggest that the mode be treated with our Lima Beans. Though called Lima, we believe it is a native of the East Indies, and in its own country a perennial. If they can be kept as above described, we have no doubt but more than a month's difference would be experienced in the earliness of the crop.]

CARNATIONS AT CHRISTMAS.—Proceed thus:—If you have not such plants, obtain two or three dozen from a nurseryman. The plants will generally be small, and you would have had a better chance if you had obtained them in April. However, better late than never. These will generally be in small pots called 60's, and most likely showing a bloom. Cut all blooming shoots off, and after gently disentangling the roots repot into six inch pots, using light, rich, sandy loam, and place in a shady position until the roots begin to work freely. A few of these stronger plants may be placed in 16-pots or 24-pots, and potted very firmly. If that can be done before September all appearance of flowering-shoots until then should be stopped. These plants thus stopped and potted will generally throw up flower-shoots in October, which will bloom in the greenhouse in November and onwards.—*London Cottage Gardener*.

SHADE TREES IN PARIS.—It has been calculated that Paris, at present, covers a space of 78,080,000 yards. It contains 148,000 trees, occupying a space equal to 336,890 square yards. The trees consist of horse-





Drawn from Nature by Max Rosenthal

Lith. by L. N. Rosenthal

MAXATAWNEY GRAPE.

DRAWN ON STONE EXPRESSLY FOR THE GARDENER'S MONTHLY

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

NOVEMBER, 1861.

VOL. III.—NO. 11.

Hints for November.



FLOWER-GARDEN AND PLEASURE-GROUND.

As soon as the first white frost has blackened *dahlia* leaves, the stems should be cut back to a few inches of the ground, the label securely fastened, and the root placed away in a cool place secure from frost till next March, when it should be "sprouted," divided and again set out. Madeira vines, tigridias, gladiolus, tuberoses, &c., require the same attention.

As soon as the ground gets caked with the first real frost, herbaceous plants should be protected. Though hardy, they well repay this extra care,—mostly natives of woods or grassy places in their native State, they expect a covering of leaves or dry grass. We find dry leaves the best material for the purpose, a few inches is a sufficient depth,—a little soil being thrown on to prevent the leaves blowing away. Where such material is not at hand, the common garden soil may be drawn over them, as before recommended in these pages.

Most of the tender plants that we desire to preserve over the season, have now been lifted from the borders, and removed to winter quarters,—and in a few weeks the beds will present a rough and forsaken appearance. It is too often the practice to leave the borders just in this neglected condition till spring-time returns. But the person of true taste finishes up the beds, and makes all tidy. In the absence of summer flowers, even order pleases.

PLANT-HOUSES, PITS, AND FRAMES.

PLANTS stored away for the winter in cold pits, require more care for the first month or so than at any other time through the winter season. Many

of them have unripened shoots, or shed many of their leaves, and unless these be cut off and removed, gangrene and decay commit distressing havoc. Air should be given at every opportunity, and nothing omitted that will, in any way, tend to harden the plants, and send vegetation to rest. No more water should be given than just sufficient to prevent withering, and the temperature should be kept as near 40° as possible, and every chance taken to render the air about the plants dry. When frost actually does come, no further care than protection from its embraces will then be required. Plants so hardened, may stay covered up for weeks, without any light or air, and secure from the slightest injury. Mice constitute the most troublesome enemy in a pit closed for any length of time; but we have, as yet, found nothing better than the recommendation given in back volumes, namely, to take peas and soak them twenty-four hours in water, then roll in arsenic and sow in a pot, as if in the regular way of seed-sowing. A few pots so prepared, should be placed in the pit before permanently closing up. The mice usually make for these pots at their first entrance to the pits. If placed on the soil, they seem to guess your secret, and will not "bite."

Plants in cellars need much the same care as those in pits. Avoid heat and dampness; frequently, however, plants suffer in cellars through getting too dry. They should be looked over, at any rate, once a month, and a little water given, if likely to become entirely dry.

Plants in windows and rooms usually suffer from excessive waterings,—very dry air about them,—too great a heat, or too much shade. As much as possible, room plants should be selected for their indifference to these requirements. Succulents, such as cactuses, mesembryanthemums, rocheas, crassulas, aloes, &c., care not how dry the room, but they demand all the sunlight possible. Camellias, Chinese Primroses, Azaleas, *Dicentra spectabilis*, *Polyanthuses*, violets, hyacinths, &c., do not mind a little shade; but they abhor a high temperature. Others again, while disliking heat, want light; of these, are *calceolarias*, *cinerarias*, geraniums, *pelargoniums*, pansies, daisies, tree carnations, perpetual blooming

pinks, roses, and the like. "Leaf plants," for the most part, like a close, moist atmosphere, and a moderate degree of heat to do well. For these, glass partitions and closely-glazed cases are usually employed. A great error in the growth of plants in these cases, is to suppose they require no air. The closeness is to secure a moist atmosphere, not to exclude the air. Whenever, therefore, the temperature is low, and little evaporation going on, the opportunity should be seized to air the cases; a few moments are sufficient. A very pretty plant arrangement may be made in parlors that have bay windows; the whole window may be closed off from the main part of the room by a sash, and filled with plants. Some on the floor,—some on shelves, and some pendant from the roof. A common oil lamp will be quite sufficient, with the usual window shutters, to keep out frost during the night or extra severe weather, while the regular day temperature of the room will suffice for that time. When the lamp is burning, provision should be made for the admission of fresh air from the room at the bottom of the case, and for the exit of consumed air at the top of the case. This is best accomplished by a tube to and from the lamp.

To those who have larger plant cabinets or small conservatories, connections with heaters or hot water from kitchen ranges will suggest themselves. This is often done. The great error we have often noticed is, that the heat is led to the back only, when it should be continued right to the front or coldest part of the house. When heaters are employed, the oxygen of the air is usually defective, and besides the air is very dry and ungenial to healthy vegetation. Evaporating pans around the mouth of the air flues should be used in such cases,—syringing done at frequent intervals, and pure fresh air given whenever a warm out-door spell furnishes the opportunity.

In the greenhouse such plants as are in a growing condition, and are desired to continue growth, if filled with roots, may be repotted into pots a size larger. No advantage is gained in any case in employing pots for shifting much larger than those in which the plants are growing. Coarse, spongy soil should, in all cases, be used for pot plants. The advantage claimed for peat over other soils for many pot plants, is as much owing to its fibrous condition as to its peculiar nature. Insects should be carefully looked after, and the various remedies best approved of employed for their destruction before they become very numerous. We must still repeat that we find nothing so simple or so certainly effective as hot water for all kinds of insects, from the minute red spider to the mealy bug and scale. We get a common hand furnace, and set a large washing boiler on the top, heating the water to

about 130°; in this we put about a teaspoonful of grease, and the same quantity of flower of sulphur. All the plants that exhibit the slightest trace of insects are then collected together and dipped in for a moment. Specimens too large to dip in are held over and syringed, so as to save the hot water as much as possible. These large ones we do last. Occasionally a few leaves or very tender green tops get scalded, but this is but a temporary evil for a permanent cure. A few syringings within a few days subsequent to the operations, clears the plants from the greasiness left on them; but the sulphur leaves a slight smell for some time, and seems to exercise a beneficial influence in keeping off fresh attacks of the puny, but by no means contemptible, invaders. We know of numerous instances where parties have tried the process and thanked us for the information; and though our hints in this respect have been received with far less general notice than many others that our pages have been the means of circulating, we consider the idea the most invaluable one to horticulturists we have ever offered.

Communications.

TREES AND SHRUBBERY.

BY WALTER ELDER, PHILADELPHIA.

ONE of the most noble and pleasing features in landscape-gardening, country-seat-gardening, suburban and cottage-gardening, is a choice selection of trees and shrubbery properly arranged. The skillful gardener knows the sizes they attain, their habits of growth, the sizes and colors of foliage and bloom, and their time of blooming, the soils and exposures most suitable for them. He will make his selections according to circumstances; and by a graceful arrangement, the beauty of the whole will be enhanced. In the suburban and cottage gardens they will be planted closer than upon a large place, and the arrangement will be promiscuous, without incongruity. Evergreen trees will be planted a distance from the house and off the walks, so that their horizontal branches will not darken the windows in winter, nor interrupt the passage on the paths.

Deciduous trees, with long, clean stems and branching heads, will be placed nearer to the house, as they do not confuse the way, but give shade when it is most desired, and drop their leaves when sunshine is needed. Shrubs of neat dwarf habits, handsome bloom, and mild fragrance will be planted near to the cottage; and those of strong odors and shaggy growths will be placed at a distance; and their blossoms and fruits will show to greater advan-

tage, and they will be so arranged as to give a harmonious contrast of flower and foliage. Trees of dark leaves and heavy shade will be mated with those of lively foliage and light shade. A cottage nestled in a plantation of trees and shrubbery has an air of richness, refinement, and comfort, which nothing else could give it. The beauty of the plants and the elegance of arrangement, with a rich, lively green sod, complete a picture which the pencil of the painter can never fully imitate.

But it is upon large places where the master mind of the real gardener shows itself advantageously in the display of a combined knowledge of art and science in the arrangement of trees and shrubs, which will be different upon different places. He will first inspect the soil, and observe the location, and make his selection of plants to suit, and make preparations for a speedy planting in advance of their arrival. There may be an unsightly object to be hid from view; and a clump of trees (one-third of them evergreens) are planted to shut it out in winter, as well as in summer. The same will be done where the mansion and all who move around it are exposed to the inquisitive stare of idle and unmanly neighbors, and also where chilling and cutting winds enter. In places much inland, tornadoes are from the north-west; whereas on the seacoast the winds off the water are most chilling and blasting for blossoms; while along some navigable rivers, fruits are blown off the trees before they are full-grown. The gardener will perceive all these, and will plant leafy screens where needed.

Where fine perspective views are, openings will be left; but the chief aim will be to make fine views and attractive objects upon the place. Flowering trees and shrubs will be arranged near to the mansion or along main walks, where they will display their beauties and diffuse their fragrance most advantageously to our pleasure. Trees of fine form and gigantic stature will be set further out upon the open lawn, and avenues may be clothed on either side for shade and shelter. [It really is strange that shady avenues are so rare with us, as there is no country where shade and shelter are more needed.] A great variety of trees could be planted along the avenues, and the contrast of their sizes, habits and foliage would be a treat for the arborist as he rides or walks along. Openings will be left to allow a load of hay to pass through without rubbing upon the branches, and to view the sunny glades and the noble specimens of trees that are singly scattered over them.

A good arrangement of shrubs and trees is that which diversifies the estate and makes it an admirable object in the landscape, and in walking over it, a fresh scene opens at every short distance. Every

single plant, group and row will show that they were planted for a purpose, and the whole will be a combination of nature and design. The skillful gardener, like an expert general, stations his *forces* where they will be most *effective*; and every *enemy* in the shape of an eye-sore is placed in the *guard-house* of shrubs and trees.

All architectural adornments upon mansions, cottages, arbors, pavilions, &c., in the country are bald without arborial embellishments; so are fountains, fish-ponds, &c. Even unsightly farm buildings, draw-wells, old pumps, stagnant water-pools, &c., are converted into beauties by shrub and tree surroundings. See the rustic spring-house reposing under the shade of a willow tree! Who will not plant plenty of shrubs and trees? or who cannot admire those that adorn the early spring and perfume the air with their fragrance and expand gorgeous blooms of various hues,—those that deck the verdant lawn, their grateful shade during sultry summer days, and the matchless grandeur imparted to winter scenery by clustering evergreens? Does any one say that they are “costly things?” We ask, what pleasure can be got without cost? Let us draw a comparison. Three hundred dollars are spent for an evening family party. That would purchase and plant three hundred shrubs and trees. A lady's jewelled set costs \$89,000. One year's interest of that sum will purchase and plant over five thousand shrubs and trees. If all the fine men enlisted for the war and all the monies appropriated for it had been employed upon horticultural improvements, what a blessing it would have been to the nation! After this, let no one grudge the purchase and planting of shrubs and trees.

AN ESSAY ON GRAPE-GROWING.

BY JAS. MATHESON, GARDENER TO F. C. YARNALL, ESQ.

To the President and Members

of the Pennsylvania Horticultural Society:

In accordance with a resolution passed at your last meeting, I would respectfully offer the following brief essay upon the culture of exotic grapes under glass:

THE VINERY.

The best form of house is the lean-to, and the best aspect is a few degrees east of south. The ground should slope gently from the house, so as to allow of easy drainage. Where practicable it is desirable to construct the house at the base of a hill, excavating the body of the house out of the hill-side, thus affording entire shelter from the north winds and abundant warmth during the early and late stages of vine growth.

When it is requisite to grow a great variety or a

large number of vines within a limited space the span roof may be adopted, inasmuch as the back or wall border of a lean-to vinery is not so advantageous as the front.

The roof should be a fixed one, and slope at an angle of about 30° with the horizon.

The rafter should be not less than twenty-five feet in length. This is a very important point, and one not sufficiently considered in the construction of vineries. A long leader and abundant foliage, and a plenty of light are thus secured.

There is no necessity for, but rather a considerable disadvantage in the employment of the heavy rafters commonly in use. They obstruct the light too much. A single sash bar four inches deep and one inch thick is all that is requisite. The two upper edges should be ploughed $\frac{1}{2}$ inch deep and $\frac{1}{2}$ inch wide to receive the glass. This bar is supported, at intervals of eight to ten feet, or one-third the length of the rafter, by cross bars, six inches deep and three inches wide, which rest on uprights or posts, preferably slender cast-iron columns, placed about ten feet apart, and standing on stone blocks sunk in the ground.

The glass should be about fifteen by twelve inches, and well bedded in a thin mixture of white lead, linseed oil and whiting, in consistency about midway between paint and putty. If properly done there is no necessity for external putty. The glass should be heavy, and free from flaws, nicely matched, and lapped as little as possible. A wide lap often admits, by capillary attraction, so much water, as, if suddenly frozen, to cause the glass to break.

The ventilating sashes, at the top of the house, should be from three to four feet in width and continuous from end to end, so as to allow the whole length to be ventilated at once. They may be so arranged as to open separately, by cord and pulley, or simultaneously, by means of a crank and shaft. No bottom ventilation need be provided for, as it is not advisable to admit bottom air at any stage of vine growth.

The front, back, and end walls of the house should be substantially built of stone. In the front wall openings must be left, opposite the intended position of each vine, to allow the roots to penetrate the open border. The front, if low, may be entirely of stone; if, for appearance-sake, as well as convenience in working, the front be made three to four feet high above the foundation, it should be of fixed sash, glazed like the roof. External braces will be required, to support the thrust of the rafters.

The highest results cannot be attained in a strictly cold vinery. The capricious weather, and sudden frosts late in spring, the raw, blustering winds and long spells of cloudy weather sometimes occurring

in early summer, and the sharp, nipping frosts of mid-autumn, all conspire to render a cold vinery uncertain in its action, and make a flue desirable, and even indispensable, if we wish to grow very early grapes or to ripen and keep the Muscats and other late sorts. Moreover, the length of season and the prolonged degree of heat necessary for the full ripening of the wood, cannot, with certainty, be attained in a cold house.

A plain brick flue, about ten inches square internally, is all sufficient; it should be placed at least ten feet from the front of the house; in a span roof house it should run along the centre, sunk a little below the surface, to allow a latticed foot-walk, made in moveable sections, to be placed over it. Thus placed, should any gas escape from its crevices it will rise directly to the ventilators and be dissipated without injury to the foliage. If the flue be properly constructed, leaks will not occur.

Artificial heat is required for a few weeks only, in the spring and autumn, and occasionally during cold, cloudy weather in summer. In cold vineries the early growth is often checked by frosts or unseasonably cold weather; and again, in autumn, the foliage is not unfrequently destroyed in a single night. Unless the leaves ripen thoroughly and fall naturally the wood cannot be fully matured, and the next year's growth and fruit will be uncertain or much diminished. A well-ripened leaf is easily distinguished from an immature, frosted one; the former is soft and pliant, the latter brittle and readily crumbling to powder.

But a small quantity of fuel is required for the half-cold or flued vinery, two tons of coal being ample for a house fifty feet in length, for the entire season. One or two extra bunches of large size will cover the cost of heating the house, which secures, beyond contingency, healthy vines and the largest possible crop.

An early forcing-house has but three to four weeks advantage in time, over a well-managed half-cold vinery, in which early grapes can be ripened by the 25th of June. In large size of bunch, productiveness of vine, and high flavor of fruit, the latter would certainly be superior to the former, besides requiring much less skill and attention.

The vines, which must be sufficiently strong to support the heavy weight they will be required to sustain, should be at least fifteen to eighteen inches from the glass and one foot apart.

BORDER.

Dig out about two feet deep, and twenty feet wide, and slope the bottom gently from the house. Along the front of the house, and at the outer edge of the border, and also at right angles across the border, at intervals of ten feet, dig drains one foot

wide and six inches deep; at the two outer corners connect these drains with covered dry wells. Fill the drains and cover the whole border, six inches deep, with broken stone, about the size of one's fist, not larger. Cover the whole with good sod from an old pasture, the roots uppermost. Fill in with compost prepared as follows: one third of fine, friable, yellow sandy loam, one-third garden soil if rich, if not use sods from an old pasture, and the remaining third of old, well-rotted slaughter-house and barn-yard manure, half of each, to which add, for every ten feet in length of the border, one barrel of fine ground bones and one barrel of slaked lime in fine powder. This compost must be prepared in autumn, under cover, exposed to the frost, and turned several times during winter and thoroughly mixed and pulverized to a fine, even texture. When completed and well settled, the surface of the border should be at least six inches above the level of the adjacent soil, so as to ensure good surface-drainage, which is especially desirable to give an early start to the roots in spring.

The inside border, both front and back, will be of the same composition and drained in the same manner as the outer border, and the drains must be continued through the wall and connected with those of the outer one. The surface of the inner borders should descend slightly towards the centre of the house. Although the roots of the vine naturally seek the external soil, there is yet this advantage in an inside border, that when the vines start in spring there is a sufficiency of active healthy roots, growing in the warm soil within the house, to nourish the early growth, and feed the young foliage, until the natural heat of the sun has excited vigorous action in the external roots. Furthermore, the evaporation from a rich inside border, kept constantly stirred (as it should be *daily* with the hoe and rake) contributes much to the health of the foliage and the color of the fruit.

FIRST YEAR.

Planting and training the vines. Well-grown one year's old vines are to be preferred; older vines, unless skillfully propagated, are apt to become pot-bound, and when transplanted the ends of their roots die.

About the first week in March dig a trench, the entire length of the house, and close to the front wall, inside, two feet wide and one foot deep. Fill in with a compost (prepared the previous autumn and turned and mixed as described above) of old hot-bed manure and sand washings from the turn-pike, and a little slaked lime in fine powder. Plant the vines four feet asunder, in the middle of the trench, spreading the roots out equally in all directions, on the

surface, cutting away all weak, decaying and broken ones, and strew a light coating of the compost over them. Water lightly, only sufficient to settle the soil about the roots. Cut the vines down to two buds, and let them rest a week before starting the flues, otherwise the buds might begin to shoot too soon for the roots and lasting injury result to the plant.

Fire may now be started and maintained until warm and genial weather arrives, commencing at about 60°, and increasing gradually, day by day, until 90° is attained beyond which it is unnecessary to go although the temperature of the house may often rise, naturally, to 100° or upwards. As soon as the buds are fairly developed rub off the weaker one.

No stopping of the vine is advised the first year, but as long a cane should be grown as it is possible to ripen, so as to secure a correspondingly strong root growth. The young cane makes but few laterals, and these should be allowed to grow unchecked. Ventilate moderately on fine days, and about 3 P.M. shut off one-half the air and syringe the vines and the whole house, through a fine rose, using, if possible, a hand engine, to give force and body to the stream. This should be done three times a week in the early part of the season and diminishing in frequency till autumn. Syringe at evening only. If the vines are sprinkled in the morning globules of water lodge on the leaves and a sudden burst of sunshine, acting upon the drops, as lenses, burns holes in the foliage, an effect often erroneously attributed to defects or air bubbles in the glass.

Every day throughout the season, until the ripening process commences, close the ventilators about an hour before sunset, within an inch, leaving a crevice of air on during the night. This condenses the moisture, and, in imitation of nature's process, supplies the plant with abundant and grateful dew.

A shallow trough of water, extending the entire length of the house, will assist in maintaining an equable humidity in the atmosphere of the vinery.

Keep the house and the border always moist, but never wet. The soil within the house should be kept in good tilth by a daily use of the hoe and rake, and the outside border likewise whenever the weather and its condition permit, taking care to return the mulch to the surface after raking it. Top dress the inside border, early in spring, with a little well-rotted manure and fork it in about May.

Continue the general treatment above stated until the foliage and wood are nearly ripe, gradually diminishing, without entirely discontinuing the syringing and watering. Give also a little more air except on raw, cloudy days and cool nights, when the flue should be used and a moderate heat maintained until the foliage ripens, and the plant goes to

rest, usually from November 15th to December 1st.

Now cut down the vines to about two feet, if well grown, - if weak, still closer, - cover each one with a wisp of good dry straw, and leave until spring. At the same time cover the outer border, for a space of four to five feet from the front wall, with eighteen inches of rough stable manure, as a protection to the young roots from frost.

SECOND YEAR.

In Spring, remove from the outside border all the top-dressing, except six inches, and fork this in, cultivating and raking frequently, until June, when the whole border should be thoroughly soaked with water and mulched with four inches of good, old manure, to remain till September; then repeat the cultivation given in the spring, so as to dry off the border, and prepare it for the winter covering. - Never allow either weeds or any crops to grow in the border.

The vine should receive the same treatment, except as to the old wood, as the previous year. One bunch of fruit may be allowed to set on each vine. The laterals should be pinched off as soon as the third or fourth leaf appears, and the pinching repeated, six or seven times, at the appearance of each new leaf, leaving one fresh leaf at each stopping. The leading cane should be allowed to run to the top of the house without stopping.

As soon as the vines commence to grow, early in spring, give all the borders a light top dressing of slaked lime, in powder, and repeat the same in June and September. Also whitewash the wood-work and walls once or twice each season; if this be objectionable on account of appearance distribute lumps of caustic lime on boards or dishes at intervals through the house.

About the first of May sprinkle all the borders with a solution of one pound of potash in five gallons of water.

The vines should be fumigated every year, beginning about three weeks after growth commences and repeating every three weeks until the fruit begins to color, by means of the smoke of tobacco-stems thrown upon a pan of charcoal, which must be ignited, and the gas allowed to pass off, before using in the house. The tobacco should be slightly damped so as to make a smudge and burn slowly. During the fumigation the ventilators should be closed.

Keep the flue always sprinkled with sulphur, and in case of starting a fire, in dull weather, in May or June, leave enough air on to allow the fumes to escape readily. In cold vineries strew the sulphur on heated bricks.

At the first approach of severe weather put about

two feet in depth of rough stable manure on the outside border, next the house, and diminish the quantity, sloping gradually to six inches in depth at the outside of the border. When the vine is entirely ripe cut it down to seven feet in length, if robust and stocky, but if rather weak reduce it to five feet. Fill in between the glass and the wires, up to about three feet above the eaves, with dry straw or corn fodder, preferably the former. Lay down the vines, without any covering, along the front of the house, where they will be protected from the sun's rays by the straw packing. If the winter prove unusually severe an old mat, blanket or the like, may be loosely thrown over them. If wisped with straw they are sometimes injured by mice and make premature growth in spring.

THIRD YEAR.

The general treatment of the vines will henceforth be the same as above stated for the second year. Let six to eight bunches set, according to the strength of the vine, one only on every other lateral on each side. Never disbud a lateral eye but allow every lateral to grow. In order to encourage a continuous bearing of fruit, low down, leave the spurs at the base rather longer than those above.

Keep the spurs as short as possible; if the vine be well grown there is always an abundance of dormant eyes around the base of each lateral from which to force a good plump bud to form strong spurs for next year's fruiting.

In the autumn of this year cut down to about ten feet of cane, and continue, year by year, increasing its length, but diminishing the rate of increase, until the vine reaches the top of the house, where about eighteen inches of last year's cane may be left.

If well managed, the vine should continue to bear good crops for a generation, but if, from any cause, one or more, or all of the vines should begin to fail a young cane should be started, at the base of the vine, and brought up gradually, as above described, until it reaches half the length of the rafter. Meanwhile fruit the old cane only on its upper half, observing in spring to ring its bark, about half way round, near the base, so as to send the sap into the young cane. In the autumn cut out the old canes entirely.

GENERAL OBSERVATIONS.

As a rule never allow any fruit to set on the leading cane.

Cracking, moulding and rotting of the fruit, may be prevented by having a tight roof, by a judicious use of the flue and by avoiding excessive watering and syringing. Be careful however not to let the border at any time get entirely dry.

In trimming the bunches, which should be done as soon as the berry is formed, regard should be had to the variety in hand. Free-setting kinds should be thinned out one half or more, leaving only so many berries as will when developed to their full size form a handsome and not too compact bunch. Some varieties, which do not set freely, may be left until the berries have attained sufficient size to allow a choice and then the smaller and weaker ones should be cut out.

Each autumn, before the vines are laid down they should be washed with the following mixture: $\frac{1}{2}$ pound of whale oil soap, $\frac{1}{4}$ pound of tobacco-stems, four pounds of flour of sulphur and one ounce of nux vomica ground, on which pour two gallons boiling water, and let stand till cool. Stir constantly while in use and give the vines a slight coating. In March rub the old wood over with a little whale oil, to soften the bark, and then peel it off before tying up the vine to the wires.

Vines thus treated are entirely free from mildew and the attacks of insects. One of the vines under my charge managed upon the method above given, which was planted five years since, measures nine inches in circumference at two feet from the ground, and at twenty-four feet in height the young wood of this year girths four inches. This vine has now fifty pounds of perfect fruit and is a model of health and beauty.

[In our last year's volume we noticed the great success of Mr. Matheson as a grape-grower, and are glad to have so full an account of the way he manages his vines. It is often said in cases of this kind that such results are to be attributed more to accidental circumstances than to any regular system of management; but Mr. M.'s continuous and improving success shows well the excellence of his mode of treatment.

A Committee of the Pennsylvania Horticultural Society visited Mr. M.'s vines this season, and found every thing as described. The bunch before reported in our journal as weighing nine and a quarter pounds, on exhibition, was weighed by one of our friends, and found to be over nine pounds, after passing the ordeal of the "Tasting Committee."—Ed.]

GRAPES.

BY DR. EVANS, WALLACE, PA.

I AM truly sorry that the little that is left of me will not be able to attend the Convention of Grape-growers. A month ago, dysentery took the lion's share of me; acute rheumatism immediately followed, and has not yet abandoned its prey. It is taking the leopard's share; and unless it leaves me soon, there will be nothing left for the jackal.

I had a fine crop of grapes this season, but regret to say that there is little or nothing left of that. Had the meeting been called two weeks earlier, I could have sent you such clusters of Delaware grapes as are rarely equalled, and perhaps never surpassed; but of my Delawares every berry is gone.

In the winter of 1859 a liliputian plant was sent to me by a friend, in a three-inch pot, for want of a smaller one. By autumn it made a growth of fifteen feet. Next season it yielded a dozen fine bunches of fruit, and this year—let me describe it. I fruited but a single cane some six feet long. Every eye made its shoot, and of these shoots ten of them supported four bunches each, and nearly all the rest three bunches apiece. There was not a shoot without at least one large bunch, and there were not half-a-dozen small bunches on the vine. Dr. Eshleman saw the vine in its full glory, and as he will probably be with you, I will commit its reputation to his keeping. My border is three feet deep, ten feet wide, and contains a large admixture of bonemanure and leather scraps. The Catawissa will, I think, prove a valuable variety. It ripens with Hartford Prolific and Northern Muscadine. In quality it is, in the opinion of all who have tasted it here, better than Isabella, and its large berries and very large bunches give it a beautiful appearance. I think it will be found perfectly hardy, and as well worthy of general cultivation as any other hardy black grape we have.

I am also much pleased with Taylor's Bullitt, which fruited here this season. It is a most beautiful little grape, without pulp and almost without skin,—more perfectly transparent than any other native grape I have seen. In quality, about equal to Elsinboro', which is not bad. If its rambling propensities can be restrained, I think it will be quite an acquisition.

As an early grape of good quality, I would recommend the North America. It is a seedling of Franklin, and a very much better grape, of the size of Isabella, without pulp, sweet and good, but lacks flavor. It ripened here before Hartford Prolific, and is a much better grape. I think well, too, of Alvey. It is, indeed, a most excellent grape, resembling Taylor and Elsinboro' in flavor, and seems to be quite prolific, though I cannot agree with my friend, Mr. S. Miller, in considering it but little inferior to Delaware in quality. Alas! we have no native grapes of which that may be truly said by me. The Diana is next to it, in my opinion, but between the two there is room for many others. Anna proves to be a most excellent grape, but a shy bearer. Perhaps she will yet mend her ways.

I fruited twenty varieties this season, and I must say that I have no ten varieties in collection (so far

as tested) which I would not rather part with than Delaware. It would afford me pleasure to write out my views at length on the interesting topic of grape-culture for the benefit(?) of the meeting; but, "weak and weary, sick and sore," I can pursue the subject no further.

[The above, addressed to one of the officers of the Lancaster Grape-growers' Meeting, has been handed us to do with it as should seem good unto us, and our decision is to publish the whole. As the views of an observing and intelligent amateur, they derive additional force, if possible, when written in an off-hand way, without thought of publication in the *Monthly*.—Ed.]

MY EXPERIENCES.

BY OLIVER PEGRAM, OF PEGRAMIA.

No. II.

I HAVE said that the time had come when I should carry out that lifelong wish of mine, and retire to the country. Such a wish is but a natural one with every man. In my case it was all the more so, as I had been bred, born and educated in a large place, where the earth seemed a wilderness of houses, and vegetation had but few and feeble exponents, such as the wormy linden trees on the sidewalks and the grass in the quiet streets. The country around my native place was as flat as a pancake, and much less interesting than a pancake. My destiny willed it that I should live in none but the largest cities of our country, and, gifted with a lively imagination and an innate love for the country, I, from the contrast between necessity and wish, clung all the more to my ideal. I had not even the leisure of those folks who, partly from the love of home and partly from a love of country, go a riding. Hard at work from morn till night, I was essentially a stay-at-homer.

Here comes the daily phenomenon of the strange workings of the native bent, illustrating the adage of "what's bred in the bone," &c. To gratify my love for country, I read late at nights in bed (accompanied by a cigar, or may be three or four of them,) books of travels in distant countries, especially such in which I fancied that Nature appeared in her most charming forms, such as the West Indies, the Brazils, &c. Having, also, a practical turn,—and who has not in this great country of ours?—I read (don't smile, kind reader,) price-currents in the newspapers, thus getting a knowledge of what the country produces, and what it "fetched." Later in life, when the dollars began to grow with me, and when I had married, I read in the papers the advertisements of farms or country residences for sale or to let. My imagination easily made me proprietor of

each of them in turn, and each of them had its peculiar fascination, no doubt because its best points were made the most of in the paper. Now, this sort of thing is very well,—just as the dream will always suffice to the soul so long as the reality is not sought for. But I dearly paid up for this continued play of the imagination; for when we (that is Mr. and Mrs. Pegram) one winter night (I think it was in February) had resolved that we not only could, but would, move into the country, then began with me a series of vexations, the narration of which, I hope, will do some good to such of the *Gardener's Monthly's* readers as are still in the incipient stage of "moving into the country."

I wanted to find my ideal. Where was I to find it? First I took to the advertisements. Perhaps I went to see fifty different places. Seeing them, and that, too, in the month of March and with an unacquainted eye, they, one and all, fell vastly short of my ideal. They were either too flat, or too rugged, or too cramped, or too oddly shaped, or the buildings were distasteful, or the soil was too poor, or there was too much or too little timber on them. Let alone the fear in my mind of such things as take a man very unpleasantly by surprise, and must be made the best of when once unhappily found; for instance, unpleasant neighbors, or may be chills and fever and similar miseries of life,—for who ever, when he inquired of people on or near the spot, was not informed that this spot was "remarkably healthy," and "most respectable people all around?"

Besides, there floated in my brain an unshaped thing of an ideal, some few points of which I found in reality in each of the fifty places, but, unhappily, not in one of them together. I dreamt of a dwelling standing half-way over a green hill, looking east with a little southing; white pines crowning the top of that hill, and coming down it a little way, just enough to shelter us from the north and north-west in a way both useful and ornamental. Then I wanted the ground apt to be terraced in front, and to be nicely laid out as a flower-garden. At the foot of the hill I wanted to make a pond, with a green isle in it, on which I was to plant a "native" wilderness of shrubs and trees. The pond was a fixture in my mind, as well as in my wife's, both of us having an unusual predilection for roast duck, cold. There was, likewise, to be a diversity of ground all over the farm, although the whole was not to exceed one hundred acres. Monotony I could never bear; so I wanted hill and dale, rocks and rich soil, meadow and woods, and a little of every thing that makes the component parts of creation.

Was I unreasonable? By the beard of the Prophet, I believe I was. But as this is a sort of con-

fession, I will be honest and state even, that, in addition to the grand features of the place, I stuck quite as tenaciously to the smaller ones. I was to have a sun-dial on a large scale, a rustic bridge spanning the indispensable streamlet (I hoped the gods would throw in a little cascade), an ivy-clad grotto, a Newfoundland dog of a prodigious size, (black, of course,) my "own" horse, beautiful creature! and squashes of a size and flavor hitherto unknown to the inhabitants of this continent.

Feeling how much I claimed of Nature to satisfy my exacting mind, I was ready to move into any part of these United States where I could find my ideal, excepting the northernmost and the southernmost ones. Not so with Mrs. Pegram. "What, to go and leave our friends and relations at ever such a distance, and, strangers as we are, go and seek new friends amongst strangers? Take the children and go and live Heaven knows how far from any place where they can get a good schooling? Go and live in an out-of-the-way place, out of sight of all the world, where nothing ever happens, and where you never get to know what is going on in the world? Preposterous! You might as well bury alive your wife and your children, Mr. Pegram!"

Was ever man as perplexed as I?

THE CRAB APPLE AND ALMOND DWARF AS STOCKS.

BY "MAPLE DELL," ILLINOIS.

IN reply to "S.'s" remarks in the last *Monthly*, I would state what little I know about these stocks.

The Crab Apple (*Malus coronaria*) grows in great abundance in this neighborhood, and has been repeatedly used as a stock to graft upon, with success; and if they were worked near the ground, low heads being formed, they would, with some varieties, form dwarf trees equal to those worked upon Doucain stocks, perhaps superior.

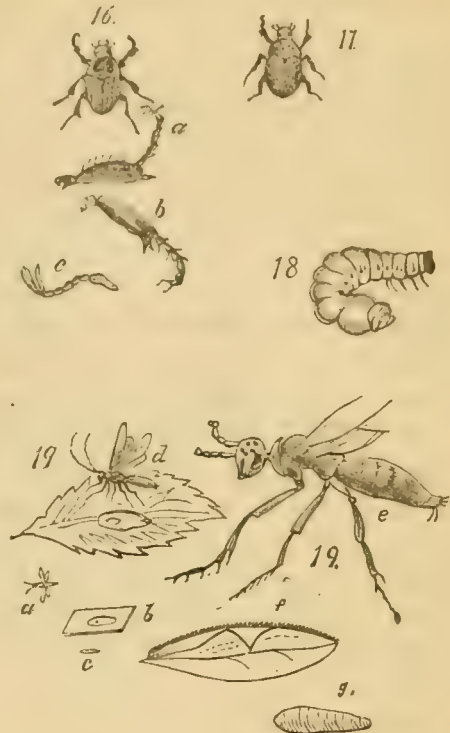
Our attempts at dwarfing the Peach and Almond have proved quite successful. Two years ago we budded some Peach and Almond varieties upon the Double Dwarf-flowering Almond (*amygdalis*, fl. pl.) Last year they grew vigorously, making pretty little shrub-like trees before fall, and were well furnished with fruit-buds. This year we shortened the new growth two-thirds, leaving sufficient fruit for the bushes to mature well, but they were stung by the curculio and dropped off before maturity.

We may, perhaps, be more successful with them next year; and as they have not overgrown the root much, they may last for one year, their natures being dwarfed.

INJURIOUS INSECTS.

BY S. S. RATHVON.

[Continued from Page 243.]



Anomala marginata. Fab. Fig. 16. Length, three-eighths of an inch; color, a light brown or dirty yellow; legs and underneath, dark brown; the posterior portion of the head and the middle of the thorax irregularly marked with chestnut-brown, and the central and lateral margin of the wing-covers the same color; wing-covers, punctured in lines lengthwise.

Anomala lucicola. Fab. Fig. 17. Length, the same as fig. 16; color, uniformly a dirty yellow, and only the tarsi and the eyes, and a very narrow margin of the wing-covers a chestnut-brown, with a brownish marginal spot on each side of the thorax; wing-covers, punctured in longitudinal lines the same as fig. 16.

These insects I found very abundant on the grapevines of Messrs. Engle & Windolph, on the 5th of July, and they had been destroying the leaves for some days previously, and continued to do so for some days subsequently. They belong to the *Melolonthans*, a family of destructive *Lamellicornia*, a prominent member of which is, the "spotted

Pelidnota *** (*Pelidnota punctata*,) and are fully as injurious to the grape-vines as the latter well known species, but occurring in vastly greater numbers. *a* is an anterior leg, *b* a posterior leg, and *c* an antenna, which are alike in both these species. Indeed, it is not unlikely, on further investigation, they may both be found yet to be only varieties of the same species. The genus *Anomala* contains many species, and among them such a great variety as to make it much of an anomaly. Ten or twelve American species of this genus are known to entomologists, besides as many more that are very nearly allied to them, and differing very little in size from those here represented. Fig. 18 is a grub, which is a form common to the family of the *Melolonthans* rather than that of a particular species. This larva is well known as the "colute grub worm," and is often made use of in the early part of the season as a choice bait for fish. These grubs remain in the earth from two to three years, and are very destructive to the roots of vegetation when their numbers are large. In this state of their being, they are more injurious than in their perfect state, and there may be a great many injuries done to vegetation by the destruction of their roots by these insects, that we are not aware of. During the winter season they burrow down deep in the earth, and come nearer the surface in the spring when the frost is out of the ground, and in this way they are sometimes ploughed up, or dug up and devoured by domestic fowls and birds, long before they are ready to undergo their transformation to the perfect state.

Some terrible records have been made of them in England and Ireland, such as stripping the foliage off large tracts of ground, in consequence of its roots being devoured by the larvæ of these insects. Anderson, in his *Recreations in Agriculture*, says that there were fourteen thousand of these insects captured in a few days near Blois, in France, by some children, and that in Hungary they boil them and extract the oil from them, which is used for greasing carriages. They make their appearance in the beetle state in June, and continue till August and September.

Ichneumon serratipennis. Fig. 19. Length, three lines; expansion of the wings, five lines; antennæ, as long as the body; wings, transparent; color, fuscous or light brown; eyes, shining, dark chestnut brown, and prominent. *a*, natural size of the perfect state; *b*, natural size of the cocoon, containing the pupa spun down to a portion of a leaf; *c*, natural size of the larva; *d*, a moderately magnified view of the insect and pupa on a leaf; *e*, a greatly magnified view of the perfect insect; *f*, a

greatly magnified view of a wing, showing the veins; *g*, a greatly magnified view of the larva. It will be seen that the costal margin of the wing is serrated or saw-toothed, and upon this characteristic I propose, at present, to name it. When it is discovered that it has been previously named, or that another would be more appropriate, then, of course, this one must fall. This description and naming is, therefore, only provisional.

On the 15th of last June I found some leaf-rolling *Lepidopterous* larvæ upon a quince tree, and upon opening one of the leaves rolled up, I found in it a light green caterpillar with a brown head and faintly banded with whitish-green, of about three-quarters of an inch in length. It was probably the larva of a species of *Tortrix*. I found that it was inactive, and that it had not inclosed itself as perfectly and securely as leaf-rollers usually do, and that something seemed to be the matter with it. Soon two small greenish-white worms, with a small black head and without any perceptible feet, came forth from its body and remained on its back. I then broke off the bud and leaves and put them in a small box, and on examining it five days thereafter I found that thirteen of these worms had come forth and spun themselves down in flat cocoons, parallel to each other, on another leaf, and that the caterpillar was dead. On the 27th of June they evolved from the pupa, by cutting a round, smooth hole through the one end of the cocoon, as shown in *b* and *d*, and came forth a brisk and knowing little "cuccoo-fly," as represented in the illustrations. This is then a lively and efficient little insect friend, and as about half of them escaped out through an open window, they, no doubt, went forth again to seek some luckless caterpillar upon whom to deposit their eggs for another brood, before the season ends. The insect is small, and is not likely to jostle other animated beings much in the world, nor is it likely to be often seen and recognized, but it is, nevertheless, doing right valiant service to man in the sphere in which it is called to operate. Close habits of observation might daily produce instances like this in the economy of insects, and would also reveal to us that throughout the "live-long day," and during the entire continuance of the summer season, insects, both friends and enemies, are incessantly at work carrying out the behests of their creation. Their perseverance is truly astonishing. It was only a few days ago I witnessed a little cuccoo-fly making attempts to deposit its eggs upon a hairy caterpillar, and the latter flourishing the fore part of his body, like an expert fencer would his broadsword, in order to ward off his enemy; but it was of no use; the fly persevered until he succeeded, before he relinquished the contest. If it were asked

* Prominent in the order not the family—*Pelidnota* is a Rutellian, (*Rutellus*), and is a wood-borer.

me what remedies I would interpose to the encroachments of these enemies of the grape-vine, I should be compelled to answer, that I do not know a single one that would be entirely effectual. Smoking them out with a torch of sulphur, would involve a great deal of labor, and unless great care were taken, might scorch the vine. In an extensive grapery syringing them with soap-suds or tobacco-brine would also be very laborious. The best self-operating remedy, perhaps, would be putting up bird-boxes, and the encouraging of blue-birds and wrens to build their nests in them. I have a small box erected about four feet above my grape-vines on a pole, in which a pair of wrens have reared two broods every season for a number of years. From eighteen to twenty is the number of their progeny reared in a single season, all of which are fed upon insects. I purposely planted two or three small colonies of insect larvæ on my vines the present season, immediately below the box, in order to make some observations upon their transformations; but in every instance, my colonies, every time I examined them, had suffered depletion, and then entirely disappeared. I did not see the wrens do the work, but I have seen them frequently bring insects, and especially small larvæ, in their bills from elsewhere, to feed their young, and I have not the least doubt that it was them that destroyed mine. These little feathered friends are occupied at least twelve hours in the day in feeding their young, and calculating eight insects an hour, captured for them,—which is only a moderate estimate,—would make ninety-six insects a day carried to their brood, without counting those they might be supposed to eat themselves. Seven hundred insects, in round numbers, in one week, for a family of wrens, is nothing more than what may be ordinarily calculated. Allowing three months to the feeding season of their young, would foot up twenty-one hundred insects consumed by these little indefatigable insect traps alone, without the other contingencies that also assist in destroying great numbers of them. Heavy, drenching rains are often of vast benefit in lessening the number of noxious insects, and if finely pulverized air-slacked lime was thrown upon those that the rain failed to wash off, I believe it would destroy or remove them, as I have been very credibly informed. With these few remarks at this time, I must bring this paper to a close, hoping that it may be of some use in throwing a little additional light upon the subject of practical entomology; and I again admonish the Association, that when they find any insect attacking their vegetation of any kind, they secure a specimen or specimens and send them to me by mail or otherwise, together with the circumstances under which it was taken, and the

tree or plant upon which it was feeding, and I shall cheerfully give such light upon the subject as I may be able to diffuse.

THE ALLEN RASPBERRY.

BY FOX MEADOW.

It is said, Mr Editor, "that open confession is good for the soul." It always does me good to acknowledge the superior excellence of fruits when they are found to be so; and I must honestly say, that I feel a pleasure, and also consider it a duty to make known what appears to me to be worthless. In reading over the September number of the *Monthly*, I was much surprised to find the success of Mr. James Gleason, of Mount Airy, in the cultivation of the Allen Raspberry. The writer first illustrates the "Allen" under a system of bad cultivation, and then gives us its opposite, terminating with a plentiful crop of superb fruit. But bad cultivation, we are all aware, must terminate finally in bad results, but with me this does not solve the mystery of the Allen Raspberry. I have it growing at the present time on a made soil four feet deep. The canes are tied up to cedar stakes, four canes to a stake. The canes grow seven and eight feet high. The ground is kept perfectly clean, and no suckers are allowed to grow but the *four* for the following season. The ground is never dry nor wet, but it is strong and rich. I have grown them now four years, and got with them such a character that really made my mouth water, and long for the time to come when we should be able to pick an abundance of raspberries from canes capable of standing "without stakes," and stand the frost "without being buried." I was not going to risk the frost, however, on such a "wonderful cropper." So we buried them as we did the Brinckle's Orange, which were growing on the same ground by their side; but, Mr. Editor, the leaves came with genial summer sun, and the blossoms smiled to the cultivator, whilst his busy hand pulled the absorbing suckers from its root, but alas! *no fruit*. A few "pips" were shown of a transparently beautiful crimson, dangling here and there on the bushes,—*beacons*, we thought, of a plentiful perfection yet to come; so the fostering hand protected them another year, and yet another year, and this summer the ungrateful "Allen" laughed right out at us, and said, it was not a raspberry, but an "Ignis Fatuus" destined to try our temper and the natural strength of our brain. "Stand!" we exclaimed, "for these war times will not permit you to proceed further without an examination of your pass." "Allen" halted with all the dignity of a warrior, and said, "Examine my pass, and you will perceive in what you *ought* to have examined long enough before, that my pass is *im-*

perfect." Had we looked at his pass three years ago, we should have sent him to the guard-house then; for botanically, his sexual arrangement was in error, *filaments*, but no *anthers*, consequently *no pollen*. "Allow me," said Allen, "to march by the side of 'Brinckle' or the 'Antwerp' brigade, and you will find me more suitable to your wants. I am only a *lady in your soil*, but in the company of *gentlemen*,—very much changed for *your* better."

"Allen, this don't pay, so you must *come up out of it* and accompany all the other things which require purifying, to the *flames*."

[The success in the particular instance we named, may probably have been as much owing to the neighborhood of other varieties, as to the system of culture, and it is a pertinent question, as Fox Meadow well puts it, whether it is worth while to raise a variety that needs fertilization, if we can get a kind that will bear as well without. In this case, none of the other kinds did bear as well, or any thing like as well. No more ground was occupied than any other kind would have occupied. Mr. Gleason's raspberry garden is in a low piece of ground, and no variety is, we believe, even protected there. His success is equal to any raspberry-grower we know, and we should like to have his experience; but as he has now exchanged the pruning knife for the sword at the head of a company in the service of his country in Virginia, we must lay aside the desire for the present.—ED.]

MANETTI ROSE STOCK.

BY F. PARKMAN, POND GARDEN, JAMAICA PLAIN, MASS.

As the true merits of the Manetti Rose Stock have been much discussed on both sides of the ocean, (I began a year ago last spring to experiment on it,) I now send you a few results of my experience, in the hope of gaining, as well as giving, information. Of several hundred strong stocks planted in April, 1860, and containing dormant buds of some thirty varieties of perpetuals, the greater part bursted with surprising vigor. Several before autumn made shoots more than six feet long. One *Triomphe de l'Exposition* measured six and a half feet. Others, such as *Mrs. Elliott* and *Pæony*, made compact bushes of four feet, loaded with bloom. Others, again, were weak and dwarf in growth. Among these was *La Reine*, while the *Muscadine Geant* did not exceed his ordinary slight proportion. In short, some found the stock congenial, others not. The soil, I should say, was trenched two feet, and enriched to the highest point.

Thus far, the results were, on the whole, very

satisfactory; but the present summer has cast a shade of suspicion over the character which entered upon its career under such hopeful auspices. The plants were carefully taken up and re-set a little deeper, in order to give protection to the point of junction of the scion and stock. This was easy, as all were budded close to the ground. A few grew and blossomed with all their former vigor, but in general they have shown a diminished vitality as compared with last year, and in some instances this deterioration has been very marked.

I am by no means prepared, however, to give my voice against this promising stock, and write chiefly to draw forth the results of others' experience. I am continuing to experiment, and will give results hereafter. The only question is that of the *permanent* value of the stock. Of its immediate influence on those varieties adapted to it, there can be no possible question.

RHODODENDRONS.

[Continued.]

BY A. MIELLEZ, FLUSHING, N. Y.

THE best mode of grafting rhododendrons, as before stated, is that of saddle-grafting. It is done by cutting a wedge of about an inch and a half in length on the stock, and a "saddle," as it may be called, of the same length on the scion, so as to fit the one into the other. The latter cut requires a little skill, but after some practice will soon become handy. I here may mention a little contrivance that will be of some service: it consists of a tube made of stiff paper, about an inch wide and four inches long; through this the scion is drawn, and by keeping the leaves erect, will facilitate the cutting and tying. Very large leaves may be half cut off.

If stock and scion are of the same size, it will form a very neat junction at once; if the stock be stronger, the scion has to be set on one side of the saddle, so as to cover bark by bark; after a season's growth the difference will soon disappear, provided it be not too great a one, in which latter case I should advise wedge-grafting; grafting on a large stock should, however, if possible be avoided. After having fitted stock and scion nicely together, use worsted or bast matting, cut into the required lengths, for tying in this way: Hold stock and scion together with the left hand, at the same time catching hold of one end of the tie, (twine,) then with the right hand twist the matting, and begin tying from the top to the bottom of the cuts, leaving little spaces between every encircling tie, so as not to restrain the ascending circulation of the sap. No coating of wax or clay need be ap-

plied; the usage of this is rather reverse to most in-door operations. The atmosphere of the place has to be kept in a condition to prevent the plants from shrivelling and drying up; this, however, will be easily accomplished in the way before stated.

In regard to the age of the wood, it matters but little whether it is one, two or three years old, as long as it is in vigorous health, and therefore old plants that have grown irregular at the same time may be formed into "shape" by grafting. For scions, however, the tops or one year's growth should be used for their more prominent eyes, healthier leaves and greater vitality, which qualify them better for a "tip-top" start and ultimate success. About a fortnight or three weeks after grafting, the stock will have issued numerous shoots, which have to be removed gradually as the issues of the scions develop, leaving the upper ones till last, to aid in carrying the sap to the latter. At the same time look after the tyings, and if they are seen to make a rather deep impression, caused by the growth and callus of the junction, remove them and tie again with untwisted bast matting. This will keep till the grafts are thoroughly united, and then be forced to break by the increasing strength of the plant. This is all that is needed, although a little attention should still be paid for the first three months or so, looking over them now and then, lest some ties might undo themselves too soon. If so, it must be removed to prevent the graft from dropping off by swagging about. By grafting small plants the same has to be observed that has been said about large ones, with the only difference that these should be grafted as near to the roots as possible for the reason, that, though only hardy Catawbiense varieties (true Catawbiense are objectionable, because they do not form so fine a ball of fibrous roots as Hybrids of *Catawbiense maximum* and *ponticum*, &c.) are used. There may be one or the other not prove quite hardy, and it is vexatious to loose any afterwards by a severe trial of Jack Frost, but which will be secure if grafted low, so as to come into the ground. Another reason for grafting near to the roots is, that a great many of the grafts will subsequently take roots when coming in contact with the soil, and so stand partly at least on their own roots.

By the way, it may be said that rhododendrons can also be propagated by layering, and pretty good plants they will make. Proceed in the usual way of layering shrubs. It, however, is a pretty slow way, and not at all advisable where large quantities are wanted. The raising of stocks and hybrids from seeds, of which I shall give a plan of treatment hereafter, is a thing of imperative necessity. For the present I will add, that seedling stocks which

have been grown in the nursery, will be fit for grafting when of an average size of an inch in circumference, and may be taken up and potted for that purpose; but where there is a large quantity to be accommodated, it will be found to advantage to plant them in a pot or house as described for large plants. Plant in rows about six inches apart and four inches between, so as to give sufficient room for the development of their growth.

A very good method of operation is the following, viz; Early in spring when the severest frost has passed away, (about the beginning of March in this section,) put a good layer of fresh stable-manure into a pit or frame, some light soil, saw-dust or tan on the top. After the first strong heat is gone (say four or five days) put your grafted plants in; they will do beautifully.

[To be Continued.]

A VISIT TO THE KNOX FRUIT FARM.

BY A. THOMSON, DELAWARE, OHIO.

THE horticultural reader has heard of the celebrated fruit farm owned and cultivated by Rev. J. Knox, in the vicinity of Pittsburg, Pa. It is undeniably the most extensive establishment of the kind in the United States; and notwithstanding its large size, is as thoroughly and systematically cultivated as any other to be found in the country, however limited in extent. From the central position occupied by the family mansion, the eye takes in at a glance over one hundred acres, within a single enclosure, almost every rod of which is occupied with fruit trees, vines and plants, apples, peaches, grapes, strawberries, blackberries, raspberries, gooseberries, currants, &c., all in the highest state of luxuriant growth, and all receiving as clean and thorough culture as is bestowed upon a good garden. The place has already been described in detail, and I do not propose going over the same ground again, but simply design noticing a few of the prominent features, which, during a recent visit, especially attracted my attention and elicited my admiration.

Mr. Knox makes the culture of the strawberry for market and raising plants for sale, a speciality.

He has been called the "Strawberry King;" and if unquestionable pre-eminence in this branch of fruit-culture can entitle a person to the appellation, it is justly bestowed. The statement that he has *fifty acres* in strawberries seems almost incredible; but a walk over the place, and an examination of the extent of the plantation, cannot fail to satisfy the most skeptical, that the amount of ground above indicated is thus occupied. During the last season the hands employed in picking and sending fruit to market num-

bered at times as high as three hundred per day, and the berries were sent in large quantities to New York, Philadelphia, Buffalo, Chicago, Detroit, and most of the other cities of the North and West,—some going even into Canada. In consequence of the size and handsome appearance of the fruit (the effect of thorough culture and the selection of choice varieties) it brought in most cases fully double the price obtained for such as is ordinarily to be found in our city markets. Mr. Knox purchases and tests every new variety that appears, and the number of sorts comprised in his specimen bed, each occupying a distinct row, considerably exceeds one hundred. Some of them are, of course, of but little value,—many of them are found desirable for a general collection, and a few are esteemed worthy of universal culture. First on his list of favorites stands *Triomphe de Gand*, which, the past season, has fully maintained its high reputation as a first-class berry in all respects, and the extent of his plantations of this variety, the preparations to still further extend them, and production of millions of plants, clearly evince the high estimation in which he holds it. Next to *Triomphe de Gand* I believe he now ranks *Kitley's Goliath* and *Trollope's Victoria*; while *Wilson's Albany*, *Jenny Lind*, *Baltimore Scarlet*, and several other standard varieties, are still largely cultivated. Several of the newer varieties, as *Fillmore*, *Downing*, &c., promise well, but have not been sufficiently tested to establish their merit. For fruiting, all the vines are cultivated in rows two and a half feet apart, and some of them more than a thousand feet in length. The vines are kept free from runners, which are removed as they appear by hand, the effect of which is extraordinary vigor of growth, and the formation of numerous and prominent crowns, which will throw up an abundance of strong fruit stalks next season. The ground between the rows is kept perfectly clear of weeds, by hoe and hand-culture; and the latter part of November the entire beds are covered with a layer of straw, which protects the plants during the winter,—is removed from the rows in the spring, and suffered to remain between them during the summer, acting as a mulch, keeping the ground moist, protecting the fruit from dirt, checking the growth of weeds, and eventually by decaying, affording nourishment to the soil. The beds for raising plants are entirely distinct from those for fruiting; all the runners are permitted to grow and root, and the beds so remote from each other as to render admixture impossible; and those purchasing plants of Mr. Knox can do so with full confidence that they are true to name and unmixed. The mode of culture pursued on this place is necessarily expensive, but experience has demonstrated that it pays

better than a less expensive system; its policy even in an economic point of view is fully established.

Next to Strawberries comes Grapes; and from the extent of his preparations for planting vines, and the thorough manner in which he prepares the soil for their reception, it is evident that this will shortly become the leading branch of culture; and those who now regard themselves as occupying the front rank as grape-growers, would do well to look to their laurels, lest, ere they are aware of it, they be transferred to the brow of the "Strawberry King."

The soil and locality of this fine farm seem to be admirably adapted to the growth of the vine, and the thorough culture given them, the judicious selection of varieties, and the systematic and scientific pruning and training, have already produced the most flattering results, and promise still better for the future. The assortment embraces all the older varieties and most of the new; but only a few of those that have proved valuable are largely planted. The three favorite varieties are *Delaware*, *Concord* and *Hartford Prolific*,—the first valued on account of its universally conceded good qualities both as a table and wine grape; the other two for their hardiness, productiveness, early maturity, and consequent value as market fruits. Of *Delawares* there are a hundred or more vines on the place, that have each a few clusters for the first time this season,—the healthy growth of the vines and the exquisite beauty and unsurpassed quality of the fruit, captivating all beholders; also several hundred vines (good one year old layers) set out last spring, which are a sight worth looking at, having made a growth of from five to twelve feet each,—the wood stout and short-jointed, and such as would, if permitted next season, produce a fair crop of fruit. They will, after another season's growth, challenge comparison with any lot of vines of like age in the country, and will richly repay the investment made at what might appear a somewhat extravagant price in procuring good vines at the start. Those who are troubled with the idea that the *Delaware* is a feeble grower, would be effectually cured by a glance at this lot of vines.

I am one of those who, when it first appeared, formed a decidedly unfavorable opinion of the *Concord*; and from seeing it growing in several localities in the East, and tasting the fruit from such vines, my unfavorable impressions of it were confirmed, rather than weakened. But, after witnessing its vigorous and healthy growth in the West, and fruiting it on my own grounds, my views have very much modified, and I have come to regard it as a most valuable grape for general culture; and the show it made this fall on the farm of Mr. Knox was such, that I cannot speak in terms of too high commendation of it.

The vines of all ages were a perfect picture of health. A large number that had been two years planted, were bearing their first crop of fruit—the clusters large, the berries perfect and thoroughly ripened, and the flavor, in my estimation, if not as good as that of a few other varieties, at least superior to Isabella. These vines averaged one dollar each from the sale of fruit, which readily commanded from twenty to twenty-five cents per pound in the Pittsburg market, while Isabellas and Catawbas (unripe of course) were a drug at six to eight cents. The great point of attraction, however, was a row of eleven vines, four years planted, occupying a trellis about one hundred and thirty feet long, and seven feet high, which from bottom to top, and from one end to the other, was covered with such magnificent clusters as I had never before seen. The bunches were large and compact, generally heavily shouldered, the berries very large and perfect in every respect, reminding one of well-grown Black Hamburgs, though from their jet black color, and covering of rich bloom, they eclipsed that celebrated variety in beauty of appearance. This, too, was simply the result of good culture and proper training and pruning. The estimate of Mr. Knox, that an acre of such vines, fruiting as those were, would yield a profit of one thousand dollars in a single season, was not an extravagant one; for I fancy he would find but little trouble in realizing one hundred dollars in any market for the product of those eleven vines.

Of the *Hartford Prolific* he has but a few vines, and when I was at his place (Sept. 25th,) the fruit had all been picked and marketed, bringing, in consequence of its earliness and attractive appearance, twenty-five cents per pound. Though not claimed to be a fruit of superior flavor, the vine is hardy and productive, and being earlier than any other yet tested by Mr. K., he thinks highly of it as a market fruit, and designs planting it largely.

The great advantage possessed by the three varieties above named, consists especially in their earliness, to say nothing of other qualities, as they all ripen their fruit before there is any danger of frost, which the Isabella, Catawba, and most other varieties fail to do in open exposed culture at Pittsburg and most other localities as far North.

Another fruit that Mr. Knox is devoting especial attention to, is the *Improved American Black Cap Raspberry*. Of this he has now very large plantations, and is preparing to greatly enlarge them, finding it one of the most profitable of his small fruits. It is both hardy and prolific, the fruit attractive in appearance and of good quality.

THE INDIAN OR CHINESE AZALEA:

Its Introduction, Cultivation, Propagation and Description of the Best Sorts, New and Old.

[Continued from Page 332.]

BY AN OLD FLORIST, PHILADELPHIA.

IF I were to be confined to the culture of only one family of plants for winter blooming, I would unhesitatingly adopt the Azalea. This choice certainly would not have been made a quarter of a century ago; but now, with the great beauty of growth, the cleanliness of the plant, its now neat and compact habit, with a very general prospect of reward for services rendered, and the great improvements in the plant of the present day, will cause many to approve of my choice. The only difficulty in the way of an amateur is, "What shall I select?" This difficulty is very apparent from the hundred and one names in nurserymen's catalogues, and all of an equal degree of merit. They will pardon me, I hope, if my feeble opinion should ignore one-half of their offerings, for which they are not to blame. They know that many require *something new*, and, of course, the propagator is considered behind the age if he is not in possession of all the trash offered at home or abroad. It now takes a very superior sort to hold any rank in the present collections. The characters should be, first, form of flower, as near the circle as possible, with a smooth, waxy petal; color, distinct, of whatever shade, with size and profusion of bloom; habit, of medium growth; foliage, green and shining. Those with a dull, rusty, deciduous foliage, such as the Old White and the Old Purple, are objectionable; so are sorts that make a growth before blooming, such as Duke of Wellington and Nova Blanc. With these outlines before us, we now give the names and colors of the best that have come under our cultural observation.

SELF, THOSE THAT ARE MOSTLY OF ONE COLOR.

Bride—Pure transparent white, of medium to dwarf growth.

Crispiflora—Rosy purple, with a crenulated edge, of medium growth, very distinct.

Delecta—Cherry rose color, very profuse, medium growth.

Duc de Nassau—Crimson, with dark upper petals and darker spots, flowers large, strong growth.

Eclipse—Bright scarlet, very profuse, strong growth.

Extrana—Brilliant rosy pink, [in color and form this excels our old favorite Copeii,] free growth and not overloaded with foliage.

Gigantiflora—Rosy salmon, spotted with violet, flowers from three to four inches in diameter, free growth.

Lateritia—Bright salmon color, very profuse of bloom, dwarf growth, and is best when grafted from six to twelve inches high. This variety, imported from China over thirty years ago, is not yet improved upon as a dwarf sort in either form or color.

Lateritia alba suprema—Similar to the former, except in color, being pure white.

Louis Napoleon—Dark vermilion color, with darker spots, very bold flower, of large size, plant of strong growth. Several of the new sorts approach this variety, but I do not yet see any to excel it.

Petuniflora—Peculiar for its uniform rosy violet color; a very abundant bloomer, neat, medium growth; produced quite a sensation when it appeared in Belgium and England.

Pride of Dorking—A very old English sort, of a cherry purple; nothing like it; strong growth; if the flowers had the symmetry of Rosy Circle, it would rank high.

Ferryana—Bright rosy scarlet flower, of medium size, free growing.

Princess Royal—Rosy pink, profuse bloomer, of strong growth.

Reine de Blanc, or Queen of Whites—Pure white, flowers from three and a half to four inches in diameter, foliage green and persistent, growth medium.

Roi Leopold—Bright salmon red, upper petals flamed with violet, stout, firm petals, and nearly a complete circle, growth medium.

Rosa illustrata—Bright rose color; a large flower, with an occasional double petal, growth and foliage good. A highly complimented Belgian variety, though we think it under the standard; of fine form.

Rosy Circle—Very brilliant rose color, shape very unexceptionable, a profuse bloomer, of medium growth.

Speciosa—A very old sort, with a bright cherry red flower of the largest size, strongly spotted with dark crimson, growth free, very large, very showy, but deficient in shape.

Standard of Perfection—(Said to be.) Flowers of a waxy rose color, firm petal, circular form, medium growth, and is altogether a very elegant plant.

Stanleyana—Salmon-red color, perfect formation, fine, clean foliage, free growth.

Vesta—Pure waxy frosty white, an abundant bloomer, foliage shining green, growth medium.

AZALEAS WITH STRIPED, MARGINED AND SPOTTED FLOWERS.

Admiration—Color white, rose and pink stripes; foliage green and persistent; a free bloomer.

Aurelia—Rose white, salmon striped with cherry spots, foliage and growth good.

Baron de Vriere—Delicate salmon color, edged with pure white, a large flower, plant of free growth.

Beauty of Europe—Striped distinctly red and white, flower not first-rate in form, very profuse, does occasionally run to a self-color of a rosy salmon.

Eulalie von Geert—Rosy salmon, margined with white and spotted with crimson; very large bloom, and produces occasionally centre petals; growth free, plant of very excellent habit.—There is a variety of this, with the foliage very distinctly margined with white.

Iveryana—Pure white, very beautifully striped and spotted with rosy violet, medium growth.

Madam Miellez—Very large, pure white flower, very distinctly striped with violet and like what the English call a fine flake carnation.

Marie Louise, or as some have it, Louise Marie—Pure white, with a delicate stripe of violet; produces a dense mass of bloom; growth medium.

Maitlandii—An American variety in the way of variegata, with the flowers, however, pure white, with stripes and spots of bright rose; weak growth; should be grafted.

Queen of the Belgians—Pure white flowers, striped with violet; the margin of the flower, however, is wavy or undulated, and admired by many; growth medium.

Magniflora—Salmon-pink flowers, margined with white, spotted and striped with crimson, good growth, very attractive.

Variegata—This is a Chinese production with *Lateritia*, and both may be seen sporting into each other. Many sorts identical, or nearly so, have been reproduced from seed, such as *Caicus picta* and others. It is of weak growth, and should be grafted. Flowers salmon-color, darker spots, margined with pure white; form nearly perfect.

Vittata rosea punctata—Flowers creamy-white, profusely spotted and striped with rose. A very profuse bloomer; growth weak to medium; improved by grafting.

AZALEAS WITH DOUBLE FLOWERS.

Duc de Malakoff—Bright red, large, double flower, very showy, growth medium.

Glory of Sunning Hill—Salmon color, very double, large flower, free growth, with exuberant foliage.

Louise Margottin—Large, pure white, with faint greenish spots; foliage full, green and persistent.

Roi des Doubles—Bright rosy crimson color, very full of petals; flower large, with excellent foliage.

Rubro pleno—Medium sized flower; color brick-dust red; growth free; the shoots must be frequently stopped to bring the plant into shape.

The above gives you, as far as I have observed, the cream of the azaleas. In doing so, I fear that many admirers of the plant will be in arms point-blank against me for ostracising their collection, and will hurl the questions at my ears—"What have you made of my fine whites, *Alba maculata* and *Alexander the Second*, for which I have just paid one dollar for a small item?" I say, the former has a flower of flimsy form and petal,—the latter, though very fine, is not superior to *Queen of Whites*. "Well, then, what do you say of my splendid *Phœnicea* and my new *Imperatrice Eugénie*?" The color of *Phœnicea* is good, but defective in all its parts; and as for *Imperatrice*, it is inferior in color and form to *Louis Napoleon*.—"Well, what have you against my fine new sorts, such as *Criterion*, *President Clacys* and *Queen of the Belgians*?" Only, the former is not more than equal to *Madam Mieliez*. *President Clacys* is inferior in form, and the *Queen of the Belgians* very pretty, but not superior to *Marie Louise*. "Well, that is one way to get over them. How will you make an excuse for the fine double white *Narcissiflora*?" I object, most expressly, to its foliage, always sickly looking. *Louise Margottin* leads it in every feature. The old Double Purple or Lilac, that was very mysteriously spirited from Clapton, London, forty years ago, and as mysteriously appeared on the banks of the Schuylkill, has the same fault,—bad foliage, bad color, rough flower. Both it and *Narcissiflora* are, however, excellent for forcing with those who make bouquets a business.

Allow me another item, and I will, for the present, close the Azalea subject. A few months ago I spent a very pleasant hour in the company of the leading amateur on the culture of this plant, and a gentleman that marks high in whatever he undertakes. I requested impromptu his best twelve sorts embracing all distinct colors. They, are in his estimation, *Alexander the Second*, *Criterion*, *Dilecta*, *Iveryana*, *Napoleon (Emperor)*, *Juliana*, *Marginata (English)*, *Marie Louise*, *Roi Leopold*, *Rosy Circle*, *Stanleyana* and *Standard of Perfection*. To most of growers many of these are new, but I believe can all be obtained in New York or Philadelphia.

There are what I believe to be distinct species of the Chinese Azalea, such as *Amœna*, *Obtusa*, and

others, which I have not compared with any of the above, deeming it aside from the purpose intended.

PRESERVING QUINCES AND PEARS TOGETHER.

BY SCHUYLKILL.

As many of your readers will probably have more pears than they know what to do with, allow me to recommend them to preserve them in sugar in the usual way, mixed with an equal quantity of quinces. Pears alone are rather tasteless, but by mixing them with an equal quantity of quinces, I will defy any one to detect any difference in them. I have pursued this plan for some time past, and speak from experience.

[An excellent hint. We have had them at our table the past few years,—the pear known as "Pound" being the variety "made" into quinces.—ED.]

CATERPILLARS ON TREES.—I notice several correspondents in different papers of the city complaining of the worms on trees, and asking for a remedy. Several years since my shade trees were filled with worms, so much so that the female portion of my family and my children would not go near them for shade. I took a pan, of a large size and flat shape, placing in it charcoal well burning, setting it under the tree; then took about a pint of rosin and two ounces of brimstone, putting them on the burning coals. The fumes and gas of the coal, I found, scattered the worms; and I tried each tree, with like results in all cases, and I was no longer troubled.—*Philadelphia Dispatch*.

COST OF BEAUTY.—There are persons who think that a home cannot be beautiful without a considerable outlay of money. Such people are in error. It costs little to have a neat flower-garden, and to surround your dwelling with those simple beauties which delight the eye far more than expensive objects. Nature delights in beauty. She loves to brighten the landscape and make it agreeable to the eye. She hangs ivy around the ruin, and over a stump of the withered tree twines the graceful vine. A thousand arts she practices to animate the sense and please the mind. Follow her example, and do for yourself what she is always laboring to do for you.

PUBLIC PARK IN KANSAS.—The City Council of Lawrence has made arrangements with Norman Allen, Esq., of that city, for a Public Park. He is to enter into bonds to give it up complete to the city in ten years.

The Gardener's Monthly.

PHILADELPHIA, NOVEMBER 1, 1861.

✂ All Communications for the Editor should be addressed, "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY, Box 406 Philadelphia."

✂ Persons sending two new Subscribers for 1861 in addition to their own, with \$4.00 can receive a copy of our First Volume, (1859) free. All persons who have paid their subscriptions for 1861 by sending two new Subscribers and \$2.00 can receive a copy of the same.

WINTER GARDENS WITHOUT GLASS.

WE are often told to "make hay while the sun shines," but most of us would rather learn how to make it when the sun does not shine. And so with winter gardens. It is easy enough when we can dip our hands into the lap of wealth, or gather to ourselves a given quantity of building material; but to have a winter garden without glass, is quite another thing, and, seemingly, much more difficult of accomplishment. Still we can do something, and, for the benefit of those who have no greenhouses, and yet would like a winter garden, we will say what we would do.

In a recent notice in our columns of Parsons' collections, allusion was made to the great variety of dwarf evergreens now in cultivation. Our flower-beds in winter are usually the most forlorn looking objects conceivable. Why not fill them in winter with these dwarf trees? Such a winter garden would not, perhaps, possess the power to please that the flowering little Edens of our well-kept pleasure-grounds afford us in the summer season, but the change itself would be pleasant, for

"Since o'er the four rivers of Paradise
The first roses blew,"

man's inconstant nature loves change, and the change in the manner we propose is well suited to the time; for the winter season is, above all others, the one in which evergreens draw us nearer to them. Though destitute of gaiety, they shed about an air of warmth and cheerfulness when all else is cold and dreary, that a garden in winter is the meanest of things without them, and we can scarcely have too many in those parts of our grounds in daily view.

Our plan would be to have all these low-growing evergreens planted in boxes in spring, and plunged in a "reserve garden" in some obscure part of the grounds till October or November, when they may be brought to the advance post of honor and plunged,

(like the tea-plants from the Patent Office,) boxes and all, in the positions that taste or convenience may designate. When the spring returns, and the plants are taken out to make way for summer flowers, they should be re-potted, or rather re-tubbed, the balls reduced somewhat, and the plants judiciously pruned and cut back, which will keep kinds within due bounds, that otherwise might become too large for our purpose.

Many parties in small places in the suburbs of large cities could not well practise this plan, because they would have no reserve ground to spare, and further, because they mostly keep no regular man, who could water occasionally in summer, and pot, shift, replace, and do all the little duties which the plants demand. But here a good opportunity offers to city florists to make something handsome. They could prepare and grow the plants and *hire them out* for the winter season. A few places once "fixed up" in the manner we suggest, the "fashion," we are convinced, would set in, and quite a living might be made by attending to hiring out such plants and fixing up winter beds, and this business alone.

Our Paris correspondent told us, in a recent *Gardener's Monthly*, that in that city there are florists who make a handsome livelihood by merely hiring out plants for room decorations at balls and parties; and surely, where permanent home enjoyment is in question, as it usually is with us, such a cheap mode of gratifying it as we propose in our winter-gardening system, would not fail to attract extensive popular support to those florists who entered heartily into it.

PISTILLATE STRAWBERRIES IN ENGLAND.

WHILE the strawberry sexual discussion was going on some years ago, Mr. Longworth wrote to inquire of Dr. Lindley whether the observations made here had been repeated there. The Doctor replied, that they knew nothing but hermaphrodites. Recently the Doctor has reiterated his belief, by asserting that if pistillates are produced in England, he has yet to hear of them. In an English journal a Mr. Wray, in an article entitled "Scientific Culture of the Strawberry," gives some facts that he collected in America, showing that by judiciously noting the differences in the character of the flowers, American strawberry-growing had reached a degree of perfection unknown in England. This seems to have fallen like a bombshell into the camp of the Doctor's intellectual exclusiveness. He copies the article entire, and asks, "What say our great strawberry-growers to these speculations and statements drawn from the other side of the Atlantic?"

The Rev. Mr. Radvell first responds, but he touches not the subject. He has, however, tried a few American sorts, and "does not like them. If the Americans want strawberries hardy and good croppers, they should try Alice Maud," &c. Advice all very kindly meant, no doubt, but, unfortunately, not up to our requirements.

Mr. N. J. Nicholson, a well-known raiser of good seedlings, then tries his hand at the task of battering the American notion. He don't understand the "trouble" the Americans "seem" to give themselves about staminate and pistillate. He is sure "practice and common-sense" is all that he wants to grow strawberries out of doors. In-doors he thinks a little "science" assists him. He names thirty American varieties he grows, but says nothing of what he thinks of them.

M. Ferdinand Gloede, a French correspondent of the *Chronicle*, next appears in the field, and he pronounces the American "science" of Mr. Wray mere "theory" and "assertion." "He has tried American pistillates under glass by themselves, and always got a good crop," without the possibility of fertilization.

It may seem to Americans a matter of indifference whether Europeans treat what they know to be facts, as absurdities or "mere theories;" but we cannot avoid expressing regret, for the sake of horticultural science itself, that so great a disposition to slight American observations and American experience should exist in British periodicals. At the same time, it is pleasant to say that an improvement in some of the best of the journals is visible, and we hope some day to see the prejudice removed entirely.

The skillful British gardener honestly believes that if he understands the *principles* of his art, he can apply them successfully to the varying circumstances of any part of the world,—and yet he no sooner has a year's experience in this climate, than he finds there is something wrong with many of said "principles," and that the results do not come out "according to Lindley" and other British writers on scientific gardening. Of course, the reasonable inference is, that these so-called principles have been deduced from limited experience or imperfect observation, and one would suppose that our friends in England would be glad to know the results of American practice, if only as a test of the soundness of their doctrines when tried by skillful men under widely differing circumstances. They seem to forget that a great part of our observing gardeners are emigrants from their own country, bringing with them all the knowledge those left behind possess, and therefore much better capable of knowing whether what they assert as facts really are such, or are

"mere theories," as they who write as above would have us believe.

No one knows better than the writer, that a pistillate strawberry in a moist atmosphere and congenial circumstances, will produce frequently eatable fruit without fertilization,—or that kinds usually pistillate will often, when circumstances favor, become hermaphrodite; and some years ago he even met with severe opposition for attempting to demonstrate the utter worthlessness of these characters as an infallible means of judging of the accuracy of disputed varieties; but of the great value of the principle in the *scientific cultivation* of the strawberry to an American, and in an American climate, we need no Mr. Gloede to dispute with us, as the experience of thousands have for years testified to that, and which has fully justified Mr. Longworth in the persistent praise of his "ignorant market woman."

That the distinction is not of much importance in England, from what we know of its climate, we readily believe,—and that our strawberries do not, and probably never will, equal theirs in size and flavor when grown on their own soil, we are equally ready to grant. Climatic influences, which, from circumstances before explained, we ought to understand better than they, teach us the reason, and we are resigned. But we do know how to make use of our facts and experiences to the best advantage, and we can afford to read their sneers at our "mere theories," without reflecting on any "practice" or "common-sense" that the English may think necessary to *their* culture, only for the sake of horticultural science, regretting their narrow views.

HORTICULTURAL SOCIETIES.

It is a remarkable fact, that while our country lies bleeding at the edge of the sword, and prostrate at the point of the bayonet, Horticultural Societies all over the Union have been more patronized and, in a beneficial point of view, more successful than they have been known to be for some years past. We believe they have none of them "made money;" but we mean that exhibitors have been more numerous, and that the spirit and determination to keep up and render them useful to the community have never been more forcibly made manifest. And yet it is natural. The first effort of the child, weak and dependent upon us, is to stray away and gather flowers, and as it grows up, to the grave, every epoch of its existence is marked by them. Even amidst the calmest pleasures, or in periods of the most passionate excitements, either of joy or grief, flowers seem to be, as it were, the medicine of life, —repressing extremes of passion, and affording a

pleasant retreat, in their admiration and study, from the more laborious occupations of life.

Botanists tell us that all the beautiful corollas with which the garden of Flora is bedecked might not have been, so far as they exercise any known influence in the nourishment or perpetuity of the individual species of plant; and, indeed, we find, that in proportion as a flower becomes filled with beautiful petals, (as in the case of the rose, carnation, &c.,) is the difficulty of raising seed from it found,—and that the coarsest and vilest weeds, that usually bear seeds in an abundance the most distressing for us, as well as those grains on which we subsist and which reproduce themselves a thousand-fold in a short time, are usually from plants that are very insignificant in all that relates to a showy or ornamental appearance.

And why, then, were flowers made, and the innumerable graceful forms and beautiful outlines of vegetable structures called into existence, but for the especial use of man,—for his instruction and amusement, and as a particular anodyne for the mental ills he is, from his very nature, bound to suffer? We take a flower to witness the happiest moments of our lives. A flower departs with them as we take a final leave of those we love, ere they go to their last resting-places; and when no more is left to us, in flowers over their graves do we give expression to all that we would like to say, and all that we can do for them.

Of the links in the vast chain of animal beings that binds us to the earth, no one but the human species appreciates floral beauty. To the horse and the ox—from the highest in the scale down to the simplest caterpillar—the handsomest flowers are but as grass. They were made for man, and for his wants alone; and unfortunate is he who, by deficient education or perverted sympathies, is doomed to trudge through life shut out from the path that winds along by the stream of their sweet influences!

We are amongst those who believe that national troubles, as in the woes of individuals, are the moral consequences of national delinquencies,—and as in this the innocent must suffer with the guilty, each owes it to himself and his own happiness to cultivate for himself and in all around him such moral influences as he can get to bear upon human character. Each may use his own engine powerful for good. To us, as horticulturists, we ask and need no stronger force than the cultivation in the breasts of all of that love of floral beauty so wisely implanted within us for the purpose.

It is thus that we account for the sudden advance in popular favor of our whilom decaying horticultural societies,—and we would have all interested in their success to well note the fact, for now is the

acceptable time, if they would profit by events and shape their course accordingly. They have never yet done for society what they should do or are capable of doing. No fault this, however; for every beneficial idea, to be lastingly useful, must have a gradual progress from its first inception to its vigorous growth and fruitful old age.

We have given recently more space to "horticultural societies" than we should have done but for this view, and we conclude this note by a pleasant little sketch from an English paper, which will afford some useful hints to us over here:

HORTICULTURE IN ST. GILES.

It may at first create a smile if we inform the reader that there has been a floral and horticultural show in Bloomsbury, and that the exhibitors comprised some of the poorest of the working classes and children of the ragged schools. But it is quite true. The Rev. Emilius Bayley issued a schedule of prizes offered for competition among the various classes, separated in such manner that persons in the most confined situations should compete by themselves, and those residing in more open streets in another class; and, independently of these, the various parished schools divided from the boys and girls of the ragged—so that no class of exhibitors should have to show against persons who had any advantages over them. The following prizes were offered for competition—

PRIZES FOR ADULTS.

1. Persons living in the Little Coram Street District, viz., Little Coram Street, Abbey Place, Chapel Place, Russell Place, Coram Place, Marchmont Place, Tavistock Mews, Colonnade, Little Guild-street — For Fuchsias: 1st, 2d, 3d and 4th prizes; for Geraniums, similar prizes; for Annuals, ditto.
2. Persons living in the Mews.—Similar prizes.
3. Persons living elsewhere in the parish.—Similar prizes.

PRIZES FOR CHILDREN OF WORKING CLASSES LYING IN THE PARISH.

1. Parochial, National, Sunday and Infant Schools.—Boys: for Fuchsias, 1st, 2d, 3d and 4th prizes; for Geraniums, ditto; for Annuals, ditto. Girls: similar prizes.
2. Ragged Schools.—Boys and Girls: similar prizes.

PRIZES FOR DOMESTIC SERVANTS.

For any plants—1st, 2d, 3d and 4th prizes.

We, who have for something like thirty years been incessantly recommending the institution of shows among the working classes, and have seen in the Duke of Northumberland's school at Alnwick the beneficial effects of extending it to children, hail this as the foundation of immense good in close towns, especially in London; and we heartily congratulate the minister on the success which has attended his endeavors. The show brought out plants grown in windows in the most miserable portions of St. Giles', and although there was not, and could not be, the healthy growth of open air in the country, the worthy patron of the movement had provided that the competitors were all upon equal terms. Those in dark, narrow streets had only to show against people similarly circumstanced. Of the show it may be said that it was by far more interesting than the finest exhibition of plants by gardeners. It brought out the ingenuity of the young aspirants to horticultural honors. Imagine one producing a young chestnut tree, another an oak, a third a walnut tree, another an orange tree, all from their several nuts, pips, or seeds; for prizes are given for things not in bloom, and therefore nothing was excluded. The mixture defies all description. It was creditable to all the parties, and the reverend gentleman who inaugurated it has set an example that should be followed by every pastor, as the best possible means of humanizing the infantile ruffianism which disgraces many metropolitan localities and manufacturing towns.

MAXATAWNEY GRAPE.

[SEE FRONTPIECE.]

At page 85 of our volume for 1860, Dr. W. D. Brinckle gave a history and description of this grape, in which he speaks of it as a grape of the highest excellence. The owners of the original vine are rather difficult of access, through, we believe, a dread of having their privacy destroyed by importunate grape-propagators; but through the kindness of Mr. Crans, a friend of the family, we have several times had opportunities of tasting fruit from the original vine, without, however, being struck with its superior excellence, and we have, therefore, refrained from sharing in our columns the enthusiasm of its friends in its praise. However, plants from the original are coming into bearing around us, and we are bound to say, they do exhibit qualities tending to "great expectations." We have not tasted Mr. Raabe's, which were before the Lancaster Meeting, and from which our lithograph was taken; but some we ate, from the vine of an amateur at Chestnut Hill, were of high excellence. We cannot say, with the Committee, that it is the best white native grape "we know," for recollections of the Elizabeth and Cuyahoga threaten us if we do; it has, however, larger bunches than these, and may probably, in a fair contest, all grown together, prove a sturdy competitor in all other qualities.

Scraps and Queries.

Communications for this department must reach the Editor on or before the 10th of the month.

The Editor cannot answer letters for this department privately.

APPLE—From Mr. H. Long, Kennett Square, Pa., who writes:

I send you by Adams Express a few apples of a seedling that is entirely new to me, and if so to you, I wish to know whether you would think it worth general culture. They are off a tree that is at least forty years old, and the man that owns the property that it grows on assures me that it has missed but one crop for thirty-one years, and that was last season; it had between forty and fifty bushels on this season, and is a good baking and cider apple, and much better flavored than you will find these, for I had to take them off before they were ripe, as the tree grew close to the village, and the boys had great relish for them. When perfectly ripe they are a light yellow, with a reddish tinted cheek, and ripe about the 15th of October.

[We print this account in full, as we are highly

pleased with the fruit. It has the great merit of distinctness; for, however good a fruit may be, it is an annoyance to be able scarcely to distinguish it from other kinds as good. It may be characterized as being in shape like Porter, but with the color and qualities of Rhode Island Greening. From appearances we think it better than Rhode Island Greening, and well worthy of further attention.]

MEAD'S SEEDLING GRAPE—Mr. J. A. Pellingill, Bunker Hill, under date of September 17th writes:

I send a few bunches of Mead's Seedling Grape, also two bunches of Catawbas, that you may test the two together. The Mead's Seedling was free from rot, while Catawba, Isabella, Clinton, &c., one-third rotted.

[Last year it was stated in our journal that Mead's Seedling sprung from a lot of raisin seed,—a fact that materially damaged its prospects, as no grape of foreign parentage will probably prove permanently valuable. It is pleasant to find from these specimens, however, that it is not of foreign parentage, but evidently a pure seedling from the Catawba, to which it is certainly superior in earliness, size and beauty of bunch and flavor. In shape and color, the individual berry is precisely like Catawba, but it is readily distinguished from this, or any grape we know, by very long pedicels. These in the Catawba are rather short, usually not more than one-fourth the length of the berry, giving the bunch a compact character; but in Mead's Seedling they are usually half the length of the berry, and frequently more, inducing a loose form. We regard it as one of the best improvements on the Catawba that has yet appeared, and will, we think, have a good share of popularity.]

CRANBERRIES.—"A Subscriber," Birmingham, Allegheny County, Pa., writes:

"Please inform a subscriber of the best plan for heating a propagating house? (1.)

How is the cranberry cultivated? How propagated? How many quarts will an acre bring?

Which kind will thrive best in Pennsylvania?" (2.)

[1. One of the best plans, in our estimation, is to employ the cheap hot-water tanks, described in several back numbers. A great deal will, however, depend on other arrangements in and about your house, and we can only advise you in this general way.

2. An excellent article, with full details and drawings, appeared in our May number, 1860, (page 138, Vol. II.), and which we can do no better than by referring you. We think either kind will thrive equally well in Pennsylvania, more depending on locality than latitude.]

PEAR—From *Saratoga County, N. Y.*—A "Subscriber" writes:

"I send you a sample of what we, in this vicinity, call the Orange Pear. As near as the pedigree of the pear can be traced, it is this: The scions were brought from Rhode Island about the year 1800. I wish to know whether they are known by any other name in other localities than this. The tree is hardy and productive. The present season, when all other kinds have failed, these have borne well; in fact, I know of no other pears in Saratoga County this season but the Orange. We call them equal to any raised.

[The pear is quite unknown to us. We have not eaten a pear superior to it for some time. It is superior to the Bartlett in quality, nearly or quite as large, and with the other good properties our correspondent states, must be one of the most valuable kinds to grow.]

PROTECTING WALLFLOWERS. — "A Subscriber," *New Bedford*, writes:

"The Wallflower is a favorite flower of mine, which has led me to seek information from the works on horticulture which have fallen in my way, as to the proper management of it in this country. This information I have not yet found. I should, therefore, be much gratified to see a few hints thrown into the *Gardener's Monthly*, if the thing seems to be worth attention. I do not even know whether or not it will bear winter exposure."

[A friend who has fine Wallflowers, bends them to the surface, and covers with soil, removing it early in spring. It will not bear entire exposure.]

HONEY LOCUST.—*J. H. B., Rochester, N. Y.*, asks:

"Does Honey Locust Seed grow the most readily by freezing or scalding?"

If by scalding, how many times would you apply the water?

If by freezing, would you keep the boxes under an open shed, or expose them to the weather?

Freezing in sand is preferable to scalding, but there is no necessity for either. A few weeks of mere soaking in wet sand will cause nearly all the seed to swell well. A friend of ours had great success last year by sowing his seed in a one-light hotbed, and when sprouted, dibbling them out like peaches are often done in well-kept nurseries. He says it "paid well." A cold or wet spell after sowing any scalded seed, usually rots many.]

VENTILATION OF GRAPERIES.—*N. B., Taunton, Mass.*, asks:

"Can you send me some paper that contains a

full report of the discussion at the late meeting of the Pennsylvania Horticultural Exhibition, or meeting upon the subject of "Mildew on Grapes" under glass? a synopsis of which I see reported in the September number of the *Monthly*. While I have been cautious in giving bottom air, I have been obliged to give it to keep down the temperature,—I do not see how it can be kept down to the safe point without a draught to circulate it, unless you remove the entire top, which I have not facilities for doing. I should be glad to see what experienced men in the matter would have to say about it."

[There has been no fuller report published than the one we gave.

Our experience coincides with that of the gentlemen engaged in that discussion, that a free admission of air from side ventilators induces mildew. It is natural that it should do so, because the dry air of our climate is what encourages mildew in foreign vines. Graperies are useful in this, that they enclose and ensure a moist atmosphere; but if the bottom and top of a vinery admit a through current, the air becomes nearly as dry as though grown in the open air, and the first object of a vinery is violated.

If you have plenty of *moisture* in your vinery, you need not fear great heat. If any of our good gardeners have other views to offer, we shall be glad to publish them.]

BLOOD'S SEEDLING GRAPE.—From *Mr. Ordway, Newburyport, Mass.*—This is a grape with a full sized dark black berry, and medium sized bunch.

In the climate of the Middle States so favorable to the success of finer varieties of grapes, this would be esteemed little above the Fox Grape in general qualities. It is not as rank,—is much sweeter,—has thinner skin, and not so hard a pulp, however. But it ripens very early, and is of a hardy, vigorous stock, which is a great advantage in the far Eastern and Northern States. We valued the Concord when we had Northern specimens only to taste quite as little as we might do this, but for our experience with that. When grown in this section it rapidly rose in general qualities towards the top of the list, and so may Blood's Black, and we should like to see it have a fair trial.

The other seedlings sent by Mr. Ordway were fully equal to Blood's.

ONTARIO AND UNION VILLAGE GRAPES.—"A Subscriber" asks:

"Have you seen the Ontario and Union Village growing near each other so you could detect any

difference? The opinion is gaining ground here that they are the same. (1.)

Can you inform me if the El Paso Grape promises to be of any value in this climate?" (2.)

[1. We have not compared them at the same time together, but our recollection of each seen at different times is, that they are not the same.

2. It fruited at Washington last year, and is highly praised by our friends there.]

GRAPE FOR DISTRIBUTION.—A correspondent at Manchester, Pa., has a seedling grape which he thinks a great improvement; but he wishes it tested in other localities. Has about fifty plants, which he would distribute gratuitously to experienced grape-growers for experiment. In this case we will willingly forward to our correspondent the names of any parties wishing to make the experiment. But we must add, that we frequently receive communications in which the writers propose for the public good to give things away gratuitously. Some of these are offered in good faith, but many of them are really intended for free advertisements of parties and their private business. As it is impossible for us to distinguish between these cases, all such offers must, in future, be made through our regular advertising columns. If the article is really worth having gratuitously, the recipients will not object to their proportion of the cost of advertising.

PEAT FOR STRAWBERRIES.—"A Subscriber," Camden County, N. J., asks:

"Please inform me through the columns of the *Monthly* in what way I can treat "swamp muck" or "peat," to make it valuable as a manure for strawberries, on light sandy lands, and how should it be applied?"

[We are not informed on any experiment for this especial use. Have any correspondents had experience?]

MUSCAT HAMBURG GRAPE.—Bunch from Mr. Bright, weighing two pounds, cut from a plant fifteen months old, from the eye. It is not so good in quality as the old Muscat of Alexandria, but is such a fine setter, and of so large a size and beautiful appearance, that we expect it to become a standard variety for cold vineries.

VEGETABLE TRANSFORMATIONS.—Barren Grapevines.—Mr. Garber sends us another chapter for publication; but as it simply records the fact, that he is not satisfied with the reasoning of Mr. Stauffer, it is not necessary to publish the whole article.

The object of all science is to ascertain such rules or "general laws" that will guide us in cases where we cannot get at the exact facts. Mr. Garber wants to know whether any one in this country has raised and flowered seedlings of the foreign grape *Vitis vinifera*; and if so, whether any of them have produced staminate plants, or plants with flowers bearing stamens, but no pistils, as the varieties of American species do. As we knew of no such experiments, we referred to the science of the matter, and Mr. Stauffer kindly followed. Mr. Garber says he does not want to know any thing about the science, but does want to know about the Seedling grapes. In this case we have no alternative but to close up the subject until some one can inform our friend from direct observation. In the meantime we can say, as we have said before, that science is opposed to Dr. Ravenal's hypothesis, for it is not even a theory.

GRAPE LEAVES.—O. T. Hobbs.—"I enclose you six varieties of grape leaves, and request your opinion as to species."

[No botanist can decide on a species of grape by the leaves alone. Panicles and berries with leaves are essential.

However, your small-leaved form appears to belong to *Vitis cordifolia*; the large round one *V. labrusca*, and the other four perhaps all varieties of *V. astivalis*.]

FRUITS FOR MAINE.—H. A. Y., Littleton, Maine, inquires:

"Can you give me the names of any varieties of the peach, apricot and quince, which, if set where they would be sheltered from cold winds, and dwarfed so that the snow will cover them in winter, would succeed so far North as latitude 46°?"

Will the Black Eagle and May Duke Cherries succeed if grafted upon the common Wild Red Cherry?"

[Perhaps Col. Little, Mr. Goodale, or some other of our experienced horticultural friends in Maine can furnish the desired information. We have found the few varieties we have tried unite on the Wild Cherry, (*Cerasus serotina*), called here Wild Black or Choke Cherry,—the variety we suppose our correspondent alludes to; but wherefore want any thing better for a hardy stock than the Mahaleb?]

SEEDLING PEACH.—From Mr. Griffith, of Philadelphia.—The best late peach (October 5th) we know; large, handsome, and will prove a valuable acquisition.

SOME valuable contributions on ice houses and other subjects, that reached us late, are held over for next month.

Books, Catalogues, &c.

FOURTH ANNUAL REPORT OF THE BOARD OF COMMISSIONERS OF THE CENTRAL PARK, NEW YORK. 1861.

The Board report that the lower portion of the Park has been prepared for public use, and that it is well appreciated by the public at large.

The system of archways—a peculiar feature of the Park—is again referred to. Their great utility in a crowded park, as a means of safety to foot-passengers against vehicles, has been fully demonstrated. We give a sketch of one of these arches, that has been taken for our journal by a friend.



3579 men have been employed on the Park during 1860, and 16,200 trees and shrubs planted. The total cost and maintenance of the Park up to December 31st, 1860, was \$6,447,964 80. This money is raised from the securities of the city, payable in about forty years. The interest of this sum for the past year is \$386,877 88. It is found that property has so increased in value around the Park, that the increased taxes from this source amount to a sum nearly sufficient to pay this interest. If we add to this the increased attractions which this splendid work offers to strangers to visit New York city, and

the extra wealth which is consequently drawn there, it is evident that this expenditure is actually a paying investment to the city, and is a proof of the far-seeing sagacity of the men who, headed by Mayor Kingsland, projected and embodied the gigantic idea.

DESCRIPTIVE CATALOGUES.

S. Moulson, Rochester, N. Y. List of leading items.
George D. Kimber, Flushing, N. Y. Fruits, Ornamentals, &c.

J. Rutter, West Chester, Pa. Grape-vines.
J. & J. Taylor, Newport, Ky. Grape-vines.
Wentz & Schlegel, Rochester, N. Y. Fruit and Ornamentals.

J. M. Thorburn & Co., New York. Bulbs and Flowering Roots.

Heffron & Best, Utica, N. Y. Vines and Small Fruits.

Dr. Grant, Iona, N. Y. Grapes.
J. W. Manning, Reading, Mass. Druacut Amber Grape.

WHOLESALE LISTS.

W. Mann, Bangor, Maine. Native Evergreens. Catalogue for 1863 is "going ahead" considerably.

Henry A. Decker, Philadelphia. Roses, Dahlias, &c. Also of Fruit and Ornamentals, and of Bulbous Roots.

T. W. & F. L. ..., Geneva, N. Y. Wholesale List of Fruits, &c.

C. F. Erhard, Ravenswood, L. I., N. Y. Fruits, &c.

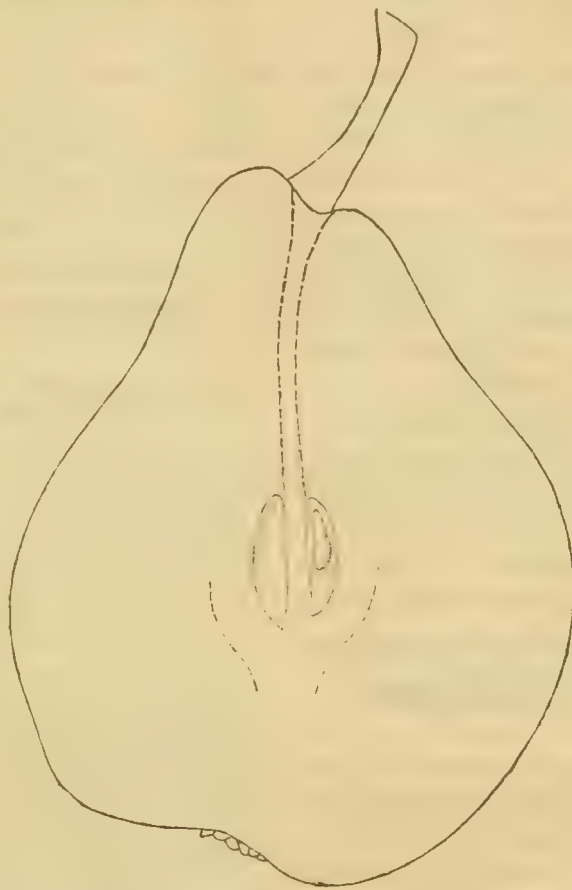
Frost & Co., Rochester, N. Y.
T. C. Maxwell & Bro., Geneva, N. Y.
Cowles, Roberts & Co., Syracuse, N. Y.
Williams, Ramsden & Co., Dansville, N. Y.

J. Rutter, West Chester, Pa.
J. W. Adams, Portland, Maine.
O. T. Hobbs, Crawford, Pa.
Hoopes & Bro., West Chester, Pa.
Danghaday & Co., Newburg, N. Y.
J. Sheppard, New York. Dutch Bulbs.

New and Rare Fruits.

PEAR NOUVEAU POITEAU—(*Biscuit*).—We have no sympathy, as our readers know, with new introductions that are even "very good," or of "first quality," unless they are in some decided point different from other "very good" kinds in cultivation. It is not because they are "worthless," but they are needless.

The *Nouveau Poiteau* is not of this class. It has a peculiar flavor, that many will not like, and others esteem, but which is, nevertheless, peculiarly its own. In these days of distinctions without differences, we regard this as no slight recommendation. The nearest resemblance in this respect is to Louise Bonne de Jersey, but in those we have tasted the very common astringency of Louise Bonne is wanting. It ripens a month or more later than Louise Bonne, and is growing in favor with cultivators, in many of whose collections it has fruited the few past seasons.



Our outline was taken from one presented to us by Mr. Ellwanger, at the Pomological Meeting in Philadelphia in September last. It was not then quite ripe, but, notwithstanding, kept four weeks, and then ripened perfectly. Fruit, rather large, obovate-pyriform; skin, with numerous russet dots; stem, medium, thickish, set obliquely on a small protuberance; calyx, large, in a narrow basin; flesh, white, buttery, and with a brisk vinous flavor.

In a letter from a distinguished pomologist, received last winter, he says of it:—"The Nouveau Poiteau I have fruited for the first time this season, and it is certainly one of great promise. I find it to grow equally well on either the pear or quince."

THE BUNCE STRAWBERRY.—*Mr. Editor*—According to your desire, we send you a slight history and description of the Bunce Strawberry. The plants were first brought to this country from the East Indies by the late Captain Hooper, of Marblehead, and by the way of friends, we received a few plants for trial, and if thought worthy, for dissemination.

It is a very vigorous grower, often having ten or twelve, and sometimes more fruit-stalks on a plant. The stalks are high and strong, keeping the berries from the ground, and with the heavy foliage breaking

the force of the rains, render it unnecessary to mulch them to keep the berries clean. The foliage is sufficient protection in winter; the plants being better without, than with any thing additional.

The berries are not very dark colored, but bright and lively. Seeds small, and sunk deep; flesh white, fine and firm, with excellent flavor and very sweet. Parts from the hull easily. Continues long in bearing, the latest berries filling perfectly, and growing to a good size. Flowers perfect. This summer we picked eight hundred boxes of berries from a bed containing thirty square-rods of ground, set last year in June.

Yours truly,

BUNCE & Co.

Remarks.—We visited the piece of ground upon which these gentlemen say they "picked eight hundred boxes of berries from a bed containing thirty square-rods of ground." We did not measure the land, but should judge that they had done so correctly. It is a strong, granite soil, moist, and considerably shaded by young apple trees, perhaps six or eight years old. At this rate, they got more than four thousand boxes to the acre, which, if we remember correctly, rather beats the great success of our Belmont friends. The two finest boxes of strawberries we saw in their season were from this bed. There is so close a resemblance between them and the Cutter Seedling, that we are not sufficiently skillful to tell one from the other.—*New England Farmer.*

Domestic Intelligence.

GRAFTING-WAX.—A good and cheap grafting-wax is made by melting together and mixing well, four pounds rosin, two pounds tallow, one pound beeswax. These three ingredients are used in various proportions by different propagators,—sometimes in equal quantities,—sometimes eight parts rosin, and three each of tallow and beeswax, or eight parts rosin, five of beeswax, three of tallow, &c. By using lard instead of tallow, as it is softer, more rosin may be employed. A mixture of equal parts of clover and timothy, at the rate of a peck or more per acre, will furnish a good seeding.

LARGE PLUMS.—Seth Luelling, of "Milwaukie Nursery," placed on our table specimens of *Peach* Plums grown on a tree two years from the graft. Three of the plums weighed a small fraction less than half a pound, the largest being seven inches in circumference.—*Oregon Farmer.*

A CEMENT FOR STOPPING THE FISSURES OF IRON

VESSELS.—Take two ounces of muriate of ammonia, one ounce of flour of sulphur, and sixteen ounces of cast-iron filings or turnings. Mix them well in a mortar, and keep the powder dry. When the cement is wanted, take one part of this and twenty parts of clean iron filings or borings; grind them together in a mortar, mix them with water in a proper consistence, and apply them between the joints. This cement answers for flanges of pipes about steam-engines.—*Canadian Journal of Arts and Manufacture.*

ENGLISH PISTILLATE STRAWBERRIES.—*Harvey's Magazine*, noticing Dr. Lindley's remark that he had not yet heard of any sterile strawberries but Hautbois in England, remarks that the Doctor has not, probably, noticed the Methven Scarlet in flower.

Horticultural Notices.

GRAPE-GROWERS' CONVENTION AT LANCASTER, PA.

A CONVENTION of Grape-growers of Eastern Pennsylvania assembled at Lancaster, Pa., on Thursday, September 26th, at Cooper's Hotel.

Mr. Lukens Peirce, of Chester County, was called to the chair, and Mr. F. F. Merceron, of Catawissa, and Mr. William P. Burton were appointed Secretaries.

The following gentlemen were appointed a Committee for testing the quality of the grapes exhibited, and to report thereon: J. B. Garber, Columbia, Pa.; T. M. Harvey, Chester County, Pa.; E. Tatnall, Wilmington, Del.; S. Miller, Lebanon, Pa.; C. Hiller, Lancaster, (Conestoga); Dr. Keller, do.; J. E. Mitchell, Philadelphia.

The display of Grapes was very large and interesting, and exclusively from out-of-door culture. There were 38 contributors, and comprised 100 native varieties and 13 of foreign.

Mr. D. S. Wagner, of York, Pa., exhibited some fine bunches of Foreign Grapes (grown out of doors), comprising the Black Hamburg, White Nice, Black Prince, Sweetwater, Chasselas de Florence and Chasselas de Fontainbleau.

Mr. Samuel Miller hoped the mode of culture would be stated.

Messrs. Evans and Chapin, of York, said they were grown on an open trellis, but protected in the winter. The white grapes were shaded from the sun in hot weather. No special manuring. The vines were sulphured in the spring.

Mr. Alexander Blissnor, of York Valley, showed a fine bunch of Black Damascus, and stated that he had put sulphur around the roots of the vine in the spring.

Mr. S. Keller showed a bunch of Grapes of a green color, (evidently a foreign grape,) and stated that he had known the vine for thirty years, and never knew it to mildew.

On motion of F. F. Merceron, it was Resolved, That the discussion for this evening be the "Culture and Pruning of the Grape."

Evening Session.

Mr. Peirce in the chair.

Mr. Merceon top-dressed his land with lime and manure, and had it well ploughed; planted the vines in rows eight feet apart, and the vines five feet apart in the rows.

Mr. Miller prepared a deep border for his vines; found mildew on young Concord vines, and thinks they were not tied up early enough in the spring; did not suffer from drought.

Mr. Gray dug holes from three to four feet; manured with bone-dust; ploughed away from the vines, and afterwards towards them; attempted spur-pruning, but found it failed, and is now trying the long-cane system; never troubled with mildew; has lost fruit by rotting of the berries.

Mr. Keller's vineyard is planted on a hill-side; ground terraced six feet wide, and well ploughed; holes two feet in diameter; a warm, sandy soil, not trenched nor highly manured; no mildew, although many of his vines lie on the ground; adopts the spur and renewal systems, by training up a new shoot from the base of the vine, and cutting out the old spurred wood when necessary; young shoots frozen last spring, and vines started a second growth and ripened some of the fruit.

Mr. Harvey was in favor of cultivating the ground well; grape-vines in his locality have lost their foliage; thinks the vines should be protected in winter and summer from north-east winds; in favor of trenching, and spoke of the value of draining; the Diana has failed with him this season.

Mr. Mitchell said that some of the best grapes he had seen were grown in a city yard, where the soil was not visible, being paved over with bricks.

Morning Session.

Mr. Peirce in the chair.

Mr. Crans offered a sample of grapes from Illinois, called Mend's Seedling, a bunch of To-Kalon, from the garden of A. W. Harrison, and fine specimens from the garden of T. T. Firth, of Germantown, consisting of Delaware, Anna, Diana, Herbemont; no special attention was given to their culture; holes dug two feet, and no manure, except what the vines received in ordinary garden culture; fine specimens of the Maxatawny were shown, from the original vine, which has had no protection.

Mr. Mitchell had visited the original Maxatawny vine, and found it growing close to the north corner of a farmhouse, and rambling, unpruned, over a plum tree; the fruit was exposed to view, most of the foliage having been blown off; it was planted alongside a fence, half the roots being covered with sod, the other half running into the border of a vegetable-garden. Owing to the want of proper culture, this grape has not yet been shown in perfection; a bunch on the table, from the garden of Peter Raabe, will give some idea of its beautiful amber color. This fine fruit is the result of a seed taken from a bunch of white grapes brought from Berks County and sown by the present owner of the vine many years ago, and offers the strongest encouragement to plant seeds of any fine grape we may meet with, such seedlings often proving to be of a superior character. It is barely possible, that at some former period the seed of a white foreign

variety may have been planted, and its product hybridized with a native sort, the seed again planted, and by a succession of such changes it might lose its foreign characteristics of wood and foliage, but retain it in the fruit; such may be the early history of the Maxatawny.

Mr. Crans introduced a seedling from the garden of J. W. Flickwir, in Philadelphia,—a dark purple grape, compact bunch, a high, vinous flavor, and intense purple color; believed to be a very superior wine grape.

Mr. Mitchell has some twenty or thirty varieties growing; vines young, and not much fruit; found the Creveling to be an early bearer and free grower; the Concord was the best grower and the Rebecca the worst in his collection; prefers vines grown from eyes, but recommends inarching on strong-growing stocks; a Delaware thus treated, grew finely and bore early.

Mr. Miller grafts his vines above ground by the usual mode of tongue-grafting, after the sap has flowed in the spring; it cannot be done successfully otherwise; recommends well-rotted tan-bark for propagating beds.

ON KEEPING GRAPES.

Mr. Miller ties the bunches in soft paper, and packs them in bran; has sent them in perfect condition to Missouri; was informed of some one who packed alternate layers of grapes and green leaves in a box, and burying it three feet under ground; dry oak sawdust and perfectly dry sand were also recommended.

REPORT.

Your Committee congratulate this Convention on having before them the largest display of native grapes probably ever collected together in this State, covering about two hundred dishes, and comprising one hundred varieties, and regret that our limited time will not permit us to do justice to all the specimens shown, many of them being worthy of more extended notice. We report:

Cassiday, Arrott and Matilda (green grapes with white bloom) to be similar in character.

Wilmington—specimen fine, but not fully ripe.

Roger's Hybrid, No. 1—large, oval berries, above medium, of a brownish amber color, tender pulp, and very promising.

Maxatawny—bunch slightly shouldered, berry oval, color amber, with an amber bloom when fully ripe, highly aromatic odor and delicious flavor; taking into consideration the hardness of the vine, we pronounce it to be the best white native grape.

Taylor—small size in berry and bunch, color greenish white, and quality excellent.

Rebecca—of its usual superior quality.

Anna—sweet white grape of good size; specimens not fully ripe; should hang late on the vines.

Carpenter—a fine foreign grape.

Mary Ann—similar to Isabella, and foxy.

Concord—continues to keep up its high reputation.

Cloanthé—similar to Isabella.

Elsinburg—keeps up its well-known good character.

Clinton—a good vinous grape.

Lancaster County Wilding—sweet and foxy, but promising.

Franklin—a promising wine grape, of a high color.
Herbmont—juicy and vinous, free from pulp.
Diana—keeps up its well known reputation.
Black—a true native, and a good juicy grape.
Cathy's August and York Madeira are similar.
Baldwin—similar to Canby's August, but later.
Delaware Burgundy—a fine foreign seedling.
Ohio—as usually described.

Reeoon—the common summer grape.

Schuykill }
Gardner's } similar, but not equal to Isabella.

To-Kalon—an admirable grape, similar, but superior to the Catawba, and ten days earlier.

Herbmont Madeira—a good wine grape.

Hanover—similar to Isabella.

Lenoir, Lincoln, and Devereux are the same.

Vermont Seedling—similar, but not equal, to Clinton.

Cynthiana—pulpy and inferior.

Long—a promising wine grape, from the South.

Union Village—fully equal to Isabella in quality, larger and earlier.

Kavanaugh and Kingsessing—good copper-colored grapes, and believed to be the same.

Black's Black—a good, early, sweet, black grape.

Williamsport—above medium size; a good and promising early grape; perfectly hardy.

Seedling from Dr. Keller—as good as Isabella, and ten days earlier.

Keller—similar to Catawba, but hardier.

Diller—pulpy, and inferior to Isabella.

Seedling from R. Fanes—inferior to Isabella.

French Grape—similar to Miller's Burgundy.

Seedling from Mr. McMinn—inferior to Catawba.

Early Amber and Northern Muscadine are the same—sweet and foxy.

Graham—a good purple grape, of medium size, juicy, and tender pulp.

Baxter's Seedling—a very large bunch; seedling of the Frost.

Warren—not true to name.

Emily—not ripe.

Christy's Isabella—same as Isabella.

Alvey—a good vinous grape, black color and medium size.

Raabe—small berry and compact bunch; dark red color and first-rate quality; a true cross between the Elsinboro and Bland.

Seedling from J. W. Flickwir—compact bunch, berry medium size; a very high colored and promising wine grape; purple.

Metcron's Seedling—a decided improvement on the Catawba, having a more tender pulp and being two weeks earlier.

German Grape—a very large bunch, of a greenish color and delicious flavor; foreign.

Mead's Seedling—similar, but superior, to the Catawba.

Hyde's Eliza—similar to the Isabella, but one week earlier.

Beside the above, there were exhibited the following varieties:

Isabella, Catawba, Kreamer (or Montgomery)—a seedling of Royal Muscadine, Baldwin, New Hope, Frost, Hartford Prolific, Delaware, Perkins, Winslow, Swatara, McOwen, Missouri, Grion, Beansville, Wright's Isabella, Weber, Cope, Spangler's Isabella, North America, Carpenter, 5 Seedlings from Dr. Keller, Black Madeira, Black Damascas, Franklin,

dale, Tokay, Black Hamburg, Seedling of Frost, Seedling from J. B. Garber, McLean (Tenn.), North Carolina Seedling, Seedling of Louisa, Black Prince, Sweetwater, Muscat of Alexandria, Chasselas de Fontainebleau, Chasselas de Florence, White Nice, Albino (Seedling of Catawba), Newport, Seedling of Herbmont, Marion, Sage, Martinburg, Perkins, Peru, Edwards, Mountain, Logan.

Many of the above are of excellent quality, and we again regret our inability to do them justice, but congratulate the Convention on the decided improvement shown in some of the new varieties, whilst the well-known older sorts keep up their reputation. We regret, however, to notice the increase of seedlings, so nearly identical with well-known sorts, as to possess no merit of their own. All of which is respectfully submitted by the Committee.

The Report having been read and adopted, the Convention resolved itself into a Committee of the Whole, and proceeded to taste and discuss the various sorts of grapes on the tables as their names were called out by the Secretary, and in general confirmed the decision of the Committee. The Chairman then announced that the merits of any grape named might be discussed, when a call was made for them.

Brandywine—Tatnall—a foreign failure; he had tried, but in vain, to get some of the fruit to bring here.

Concord—universally approved of.

Ontario—Miller—needs protection; similar to Union Village, but coarse and watery.

Union Village—Miller—as good as the Isabella.

Rebecca—Mitchell—a weak grower, owing, probably, to over-propagation. Others stated that it grew very well with them, and all agreed that the fruit was first-rate.

Diana—Harvey—does not do well at West Chester; mildews badly; thinks it needs a very light soil. Gray made the same objections; whilst others say it does very well with them.

Franklin—Miller—a dark colored wine grape, and a free grower. Keller—does not succeed with him. Garber thought well of it at first; does not approve of close pruning; thinks it should be allowed to run; it does better on a northern exposure. Jackson has a vine three years old, and no fruit.

Raabe—Miller—a first-rate fruit, equal to Delaware, but a poor grower. Mitchell believed it to be a perfect cross between the Elsinboro and Bland, the original vine having sprung up between these two sorts; has the general reputation of being a good grower and a hardy vine; the fruit is similar to the Delaware, but it has an astringency in the skin not possessed by the former.

A resolution was passed to take a vote on the six best grapes for the table, and the three best for wine, and resulted as follows:

Concord.....	21	votes	} For table use.
Delaware.....	20	"	
Isabella.....	16	"	
Diana.....	15	"	
Rebecca.....	11	"	
Maxatawney.....	8	"	} For wine-making
Clinton.....	8	votes	
Catawba.....	7	"	
Delaware.....	4	"	

After a highly interesting conversational discussion on other matters relating to grape culture, Thomas Harvey offered the following:

Resolved, That the thanks of this Convention are tendered to Mrs. Cooper, our landlady, for the comfortable accommodations furnished us, and ask her acceptance of all the fruit remaining on the tables.

Which was passed, and the Convention adjourned.

F. F. MERCERON, *Secretary*.

PENNSYLVANIA HORTICULTURAL SOCIETY.

THE October meeting was held on Tuesday evening, 15th ult., at Concert Hall. The special premium list comprised fruits only, together with the standing prizes for collections of flowers. Of the latter there was a large and choice display of Ornamental Foliage Plants, from James Eadie, gardener to Dr. James Rush. These specimens were all in admirable condition, and received the first prize of \$3.

A number of American Seedling Dahlias, from Gerhard Schmitz, received the commendation of the Committee, and the award of a special premium of \$1.

Thomas Meehan contributed a collection of forty-two named varieties of Dahlias, comprising some novel and beautiful flowers of every variety of color, and generally well-shaped, to which \$1 was awarded.

Robert Kilvington brought a large Bouquet of over twenty varieties of flowers, cut from the garden, and very tastefully made up. It is rare at this season to see so many fine hardy flowers in bloom. The regular premium of \$1 was awarded to it.

In the department of Fruits were two collections of Pears, by John McLaughlin, gardener to J. B. Baxter; also Isabella and Catawba Grapes. The Pears received the two premiums, \$2 and \$1 each.

Dr. Thomas P. James presented a dish of twelve superb Duchesse d'Angouleme Pears, weighing from ten and a half to sixteen ounces each, all perfect fruit, and the product of one dwarf tree, which contained thirty-four pears, none of which weighed less than nine ounces. The total weight of these pears was nine pounds ten and a half ounces, being an average of about thirteen ounces each.

Adam Graham, gardener to General Robert Patterson, showed a dish of Quinces of large size, remarkably fine appearance, and excellent quality.

Mr. S. W. Noble, for his collection of Apples, took the two regular premiums of \$1 each.

Of Exotic Grapes, there were excellent samples from Wm. Joyce, gardener to M. W. Baldwin, who received the first premium of \$2. With these we remarked three large Pine Apples in Pots, a dish of Figs and one of Belle de Fontenay Raspberries. The two second premiums for Exotic Grapes were given to two collections of equal merit. Black Hamburgs, White Buel, and White Syrian, from Jas. Astley, gardener to Hon. Owen Jones, and Black Hamburg, White Nice, and White Syrian, from Jeremiah Flynn, gardener to Henry Taylor. Catawba Grapes were contributed by John Cook, gardener to Rev. J. M. Richards, P. S. Bunt-

ing and Wm. Joyce. Isabellas, by A. L. Felton, and also Wm. Joyce, who took the two premiums of \$1 each.

A dish of Concord Grapes, from Mr. J. Knox, of Pittsburg, received the special commendation of the Committee, and were certainly the finest ever shown here. This grape is fast making the reputation of the best grape for general out-of-door culture.

Mr. L. Chamberlin showed a large and handsome bunch of cultivated Chicken Grapes.

Mr. Robert Buist exhibited, for the first time, the new round scarlet Egg Plant, a very showy ornamental fruit, said to be of excellent quality as an edible, to which a special premium of \$1 was awarded. Also, bunches of the Black Barbarosa and Prince Albert Grapes, supposed by most cultivators to be identical, but which were quite different in every respect.

Mr. Buist addressed the following communication to the Society upon the subject:

{ ROSEDALE NURSERIES, Philadelphia,
October 15th, 1861.

To the President and Fruit Committee of the
Pennsylvania Horticultural Society:

Gentlemen, I beg to call your attention to the accompanying specimens of the Prince Albert and the Black Barbarosa grapes, which have been published in the horticultural periodicals, and even standard works, of this country as the same grape.

Black Barbarosa I introduced from England about five years ago. Fruit, large, oval, of a reddish black, with a fine bloom; bunches, large, shouldered and tapering, not yet fully ripe. It is our latest foreign grape, and keeps very well till December. Wood, foliage, and eyes, smooth. A great bearer.

Prince Albert I introduced about twenty years ago. Fruit, round, jet black, with a fine bloom, medium size; bunches, shouldered and short. Does not set very freely, and is also a shy bearer. Has been ripe four weeks. The sample before you is only a part of a bunch. Foliage, young shoots and the mature eyes have a white down, the eyes particularly so. Any person who cultivates either of these grapes can decide on the genuine by the appearance of the eyes on the wood, without fruit. The Prince Albert is not worth culture; whereas, the Barbarosa has not an equal for late keeping.

Very respectfully,

R. Buist.

This was referred to the Committee on Fruits, who reported that they agreed with Mr. Buist so far as the fruit exhibited was named.

A communication from P. Mackenzie & Son, concerning the abstraction of some plants, was referred to the Committee on Plants and Flowers, to report at the next meeting.

THE EXHIBITION OF THE MASSACHUSETTS HORTICULTURAL SOCIETY.

THE Thirty-second Annual Exhibition of the Massachusetts Horticultural Society opened on Tuesday, the 17th. Although the season had been pre-eminently dry, and the winter a most severe one, yet the Society of the Old Bay State sustained its reputation for luxurious and well-attended festivals.

The show of Flowers was as good as usual, which, for this year, was remarkable; large contributions being made from all the prominent florists. Among them the collection of Gladiolus was especially attractive. The interest manifested in this beautiful family within the last few years has been very great among all classes of cultivators, all striv-

ing to rival each other in their progression by importation and by raising seedlings with such zeal as has never been equalled, except, perhaps, by the Dublin. Five years ago, the *Gandavensis* and *Ramosus* were almost the sole representatives of importance; but now the *Comte de Morney*, *La Poussin*, *Ceres*, *Raphael*, *Berth*, *Rabourdin*, and an endless variety adorn the stand with their several tints.

Conspicuous, also, were the Pot Plants, tastefully arranged upon an elevated stand in the centre of the hall. The Ferns and the Variegated plants (which are now the delight of the florist) were the most prominent. Rearing itself loftily above the rest, arose a noble specimen of the *Cyanophyllum magnificum*, and by its side stood fine plants of the following: *Caladium argyrites*; *Begonias Roi Leopoldii*, *Marshallii*, *nivosa* and *hypargyrea*, *Pteris tricolor*, *Croton pictum*, *Pavetta Borbonica*. Also, *Pandanus javanicus variegata*, from the establishment of Hovey & Co., and a beautiful representative of *Cattleya Forbesii*, from E. S. Rand. Mr. Rand has one of the most extensive and well-assorted orchid-houses in this part of the country, and the rooms of the Society are often embellished by his specimens. There was a good display of our native flowers from the Botanical Gardens of Cambridge; among them was a very double-flowered *Datura*.

In the department of Pomona we noticed that the fruit was not so large nor so clean as that of last year, owing to the drought, but very good for so unfavorable a season.

Mr. H. H. Hunnewell, the proprietor of Wellesley, exhibited some fine Peaches, from the orchard-house, measuring twelve and a half inches in circumference, and G. G. Hubbard several varieties of Plums, raised in the same way.

The Apples were very few, though good. The crop is almost totally lost by the severity of the winter.

The largest collections of Pears were from the gardens of the President of the American Pomological Society, Colonel Wilder, and from Messrs. Hovey & Co.

William Bacon, among other varieties, presented a remarkable dish of the Merriam Pear, which originated near Boston, and is promising to become a profitable market sort.

Pears were shown, also, from Josiah Stickney, H. Vandine, and others. The Seedling Pear Clapp's Favorite, which was exhibited at the session of the American Pomological Society, and figured and described in its transactions, was among the rest. I am informed that it is a seedling from the Bartlett, being entirely free from the disagreeable musky aroma of its parent; that it is fully equal to it in size, and precedes it in maturity; also, which is of great importance, that it has stood the winter without being injured in wood or bud, and has borne a good crop this season. Cultivators in this vicinity have high anticipations in regard to it.

The vegetables were very good, yet not extensive. The most notable were six Squashes from A. D. Webber, weighing six hundred and ninety-five and a half pounds, raised from a single vine; and some fine Celery from J. C. Potter.

But superior to every thing was the display of Grapes. The foreign varieties were principally from the graperies of Hovey & Co., H. S. Mansfield,

J. C. Potter, Mrs. F. B. Durfee, R. S. Rogers, Mrs. T. W. Ward, E. S. Rand, and others. Although the continued dry weather had been unfavorable for other fruits, yet it had been exceedingly propitious for: out-door grapes, and there was, therefore, an unusual amount. Several natives were of large size, and filled the room with an insufferably delicious(?) fragrance. Those most worthy of notice were Delaware, Diana, Rebecca and Hartford Prolific. The Delawares were small, appearing to have been grown on young vines. The Rebecca was good, and seems to be rising a little in popular favor. The seedlings of Mr. Rogers surpassed all in appearance. Four kinds were shown. The berries were as large as good Black Hamburgs, with fine, compact bunches. They were raised by cross-fertilization, the native Mammoth acting as the female, with the Black Hamburg and Sweetwater as males. The progeny of the Black Hamburg inherit its color and bunch, and those of the Sweetwater the amber color and bunch. Mr. Rogers has not only proved a problem in natural science, but has immortalized himself in giving to the world a number of excellent varieties of hardy and early grapes.

The exhibition was one of almost unexpected success, and compared with the first which the Society ever held, exhibits the brilliant progress which has been made in horticulture, and shows with what rich laurels have Flora and Pomona been crowned by the creative power of man.

BROOKLYN HORTICULTURAL SOCIETY.

THE Brooklyn Horticultural Society held their regular Fall Exhibition on the 18th, 19th and 20th of September, at the new Academy of Music, Brooklyn.

Notwithstanding the severe storm for a day or two previous, and the hard times, the display of really rare and choice Plants, Fruits and Flowers surpassed any previous exhibition of the Society. The room is the largest that could be procured, yet it was not half large enough to show the plants to advantage.

Louis Menand, of Albany, who has always been the mainstay of the Society, was on hand with his choicest specimens—two fine *Musa Cavendishii*, one in full fruit; beautiful specimen of *Pandanus*, large and well grown; Tree Ferns; Variegated do.; *Caladiums*, *Begonias* and Cactus of every variety. His collection embraced one hundred and eighty plants, every one a specimen.

Andrew Bridgeman, of New York, had two hundred and twelve plants of all the new variegated-leaf kinds, rivalling in beauty any that were exhibited. Mr. Bridgeman is making this a feature of his business. He also had a splendid display of *Gladiolus*, embracing 190 kinds of all forms and shades of color; also, the finest Basket of Flowers and Table Bouquet.

Isaac Buchanan & Son, of Seventeenth St., New York, had their choice collection of Orchids, consisting of the newest and latest varieties, in full flower. He also had a large collection of the Variegated-leaf Plants, numbering 160 varieties.

Parsons & Co., of Flushing, had an immense collection of *Caladiums*, *Begonias*, Ferns, and the new *Alocasia metallica*, very beautiful. *Cyanophyllum*

magnificum was really magnificent. His collection embraced 240 plants.

John Humphries, of Brooklyn, had the best display from the city, all in fine health and vigor; and in a few years will have a splendid collection, that will compete with older establishments.

There were many small collections which were very deserving of notice, but would take too much space.

Messrs. Dailedonze & Zeller, Cut Roses and collection of Flowers.

A. G. Burgess, Dahlias, &c.

C. S. Pell, Dahlias, &c.

From Henry M. Barnes, Esq., of Williamsburg, a choice collection of Flowers.

Besides an immense quantity of Bouquets, Baskets, and Designs of Flowers.

The Fruit from Messrs. Ellwanger & Barry, of Rochester, was very fine—165 varieties of Pears and 67 of Apples.

Also from Mr. James Wier, of Bay Ridge, some fine Pears, &c.

A Basket of Fruit, from Mrs. Packer, was universally admired.

Grapes from Mr. Cowan, of Glen Cove, were very choice, and exhibited high culture. Also an endless profusion of all of the native and hardy varieties from a number of growers.

The Vegetable department was largely represented, and contained a full assortment of all the newest and best kinds that are worthy of attention.

In addition to the Exhibition, there was a course of Lectures, by the best horticulturists, on the Best Varieties of Plants, Fruits, and Flowers, and their Mode of Culture.

This only shows to the Society, that with proper efforts, they can fill any place with the choicest collection, and place themselves at the head of our Horticultural Societies.

[SINCE the last came to hand, we have received the following notice of a subsequent meeting:]

This Society met on Tuesday evening at their rooms at the Athenaeum. There was a large attendance of members and those interested in horticulture, many of whom were ladies, and who are generally the most successful cultivators of flowers or fruit when they give it their attention.

On the table for exhibition were some fine Vines, grown in Pots, by Andrew Bridgeman, of New York; "Daphne Cneorum," a new hardy evergreen, profuse bloomer, and very fragrant; Seedling Dahlia called "Mrs. Burgess," large and fine color; also, a new Seedling Rose named President Lincoln, which attracted much notice for its fine form and beautiful color, were from A. G. Burgess, East New York. Tritomas and Pelargoniums, from James Wier, Bay Ridge. Bilbergia, from Geo. Hamlyn, gardener to W. C. Langley, Esq., of Bay Ridge. One dozen Pears of the largest size and most beautiful form that have ever been exhibited, were sent to the meeting by Wm. Chorlton, of Staten Island; copies of these will be taken in wax for preservation and reference. On the table was a most magnificent photograph of some choice plants that were at the last exhibition, which are designed to be given as premiums instead of money, as it will represent what was displayed,—the Society to keep

a duplicate copy in their rooms, and to sell to members as many as they wish. This was taken by Messrs. Morand & Co., of Fulton Street, Brooklyn, who make such things a speciality. The prizes awarded at the last exhibition were the great attraction. The worthy President, J. W. Degraw, Esq., to whose untiring energy and perseverance the members and exhibitors of the Society are under so many obligations, had prepared a number of very elegant Silver Goblets, Cups, &c., which were presented by P. B. Mead, Esq., editor of the *Horticulturist*, in behalf of the Society, with appropriate remarks. The largest piece was a Silver Goblet some fifteen inches high, of a new and beautiful pattern, richly ornamented and engraved, to Messrs. Ellwanger & Barry, of Rochester, N. Y., for their displays of fruit at the late exhibition. The next was to Andrew Bridgeman, of New York, a very handsome Goblet some twelve inches high, for his display of choice, new and rare Variegated Leaved Plants. The next, an elegant Silver Goblet and Salver, of exquisite workmanship and design, beautifully ornamented and appropriately engraved, was presented to Miss J. E. Degraw, daughter of the President, for the best Floral Design, at the last New York Horticultural Society's Exhibition, and also at the Brooklyn Exhibition. A handsome Silver Cup was also presented to A. G. Burgess, of East New York, John Humphries, of Brooklyn, G. Messenberg, gardener to Henry M. Barnes, of Williamsburg, and Messrs. Dailedonze & Zeller, of Brooklyn, for Special Premiums for the Collection of choice Cut Flowers and Plants exhibited at the semi-monthly meetings. Mr. Bridgeman made a few remarks on the Culture of Grapes in City Yards, but was compelled to stop by a sudden attack of illness. Dr. Grant, of Iona Island, was introduced and spoke for an hour in favor of the hardy out-door grapes, over those grown under glass, both for general use and profit. He considered the Delaware the best grape that was known for table use or for wine-making. He gave a comparison of the expense and profits of Out-door Culture and Under Glass, and at the next meeting he will give a full account of how to Plant, Train and Prune the Vine for Culture in City Yards. At the close of his remarks a vote of thanks of the meeting was proposed and carried unanimously.

A large number of the best horticulturists were present; Hon. Jno. G. Bergen; Dr. Grant; Mr. Quin, of Newark; Messrs. Mead & Woodward, editors of the *Horticulturist*; John Williamson, the artist; A. S. Fuller, and others.

The Society will meet again on the 15th. The same subject will be continued.

TORONTO HORTICULTURAL SOCIETY.

Third Exhibition.

THE third exhibition of the season, under the auspices of the Toronto Horticultural Society, was held in the Botanical Gardens, Gerrard Street, and attracted a very large and fashionable attendance of visitors.

The flowers, fruits and vegetables were exhibited in a mammoth tent erected at the head of the gardens, and every one was of opinion that the Fall Exhibition this year was superior to that of

any previous year. Every season new and rare plants and flowers are introduced, and the Exhibitions of the Society, as they deserve to be, are decidedly popular.

The centre tables were appropriated for flowers, and presented a most brilliant appearance, the colors harmonizing beautifully.

There was a fine display of Phloxes, and Mr. John Gray, Lake View Nurseries, carried off the first prize, and Mr. George Leslie the second.

One of the great attractions for the visitors, however, was the large assortment of beautiful Dahlias. In this department, Mr. George Leslie, Mr. Fleming, and Mr. Eccles were the principal exhibitors. The first-named gentleman carried off the first and second prizes.

Mr. John Gray exhibited some very fine double Petunias, new varieties, and newly imported into Canada. They were universally admired, but the judges awarded the first prize to Mr. Gzowski for single varieties, Mr. Gray obtaining the second prize.

In Verbenas, Mr. Forsyth, Normal School, Mr. S. Heward, Mr. T. Tilman, and Mr. Gray were the principal exhibitors. The latter gentleman had on view twenty-four varieties (named), all newly imported.

Mr. W. H. Boulton showed a few good Foliage Plants, and also some fine Cockscombs.

In Achimenes, Mr. Gzowski and Mr. W. H. Boulton were competitors, the specimens shown by each being very fine.

The display of Greenhouse Plants was not large, and there were few competitors in this department. Judge Harrison carried off the first prize, and Hon. J. C. Morrison the second prize. Mr. Morrison also exhibited a very pretty stove Orchis, growing in moss, which was highly commended.

Mr. J. Fleming had on view three varieties of the Gladiolus, a very showy and handsome plant, which attracted much attention.

In Annuals, Mr. Forsyth, of the Normal School, bore away the palm.

There was a good display of beautifully-arranged Hand and Table Bouquets.

FRUIT.

In this department the fine display of Grapes requires to be first mentioned, and certainly finer-grown Grapes were never shown in Canada than those on exhibition. Crowds of persons lingered near them for hours, and all saw something to praise. The clusters were large and luscious. Three bunches, belonging to Mr. H. Eccles, weighed, in the aggregate, not less than 121 ounces.

Hon. Mr. Cayley exhibited five varieties grown in a cold grapery, the clusters weighing from 32½ to 47½ ounces.

Mr. G. S. Gzowski carried off the Vice-President's medal for eleven varieties, while Judge Harrison and Mr. W. H. Boulton exhibited specimens which were greatly admired.

Near the middle of the centre table was a very fine Grape-vine in a pot, with six large clusters, and was from the nursery of Mr. John Gray.

Hon. J. C. Morrison also exhibited a handsome Grape-vine in a pot.

The display on the tables gave ample proof that all kinds of grapes can be profitably cultivated in Canada.

The number of Peaches was not very large, and those exhibited by Judge Harrison and Mr. D. L. Macpherson presented a fine appearance and gained the prizes.

Mr. W. H. Boulton and Judge Harrison were the principal exhibitors of Nectarines, while some beautiful plants were shown by the Rev. Edmund Baldwin and Mr. H. Eccles.

There were many varieties of Apples on the tables, but none of them calling for special mention.

The Pears were fully up to those of last year. Mr. John Gray, Hon. Mr. Allan, and Mr. R. Stibbard excelled in this department.

VEGETABLES.

While great attention appeared to have been paid to Fruits and Flowers, the tables gave ample evidence that the kitchen-garden had not been neglected; and, although a pretty young lady asked her mamma, "Who would be so vulgar as to look at onions?" the visitors gave much attention to the Vegetable department. On the tables were a very fine collection of mammoth Cabbages, Turnips, Onions, Potatoes, Beets, Cauliflowers, Tomatoes, Sweet Corn, Vegetable Marrow, Celery, Parsnips, and Salsify, and, as usual, there was a large number of exhibitors.

In Potatoes, Mr. C. S. Gzowski gained the first prize, and Mr. Tattle the second.

In Cabbages, Mr. William Burgess was the successful competitor, while Mr. T. Tillman gained the prizes for Red Cabbages.

Mr. Edward Lewis and Mr. Tattle showed some fine Cauliflowers, and the last-named gentleman also exhibited a few large specimens of Beets and Tomatoes.

The Onions belonging to Mr. George Vear were awarded the first prize, as was also the Sweet Corn belonging to Mr. E. Lewis, and the large Vegetable Marrows exhibited by Mr. H. Eccles.

The Judges in almost every department appeared to have considerable difficulty in giving their decisions, owing, no doubt, to the excellence of the various specimens exhibited.

KEOKUK IOWA HORTICULTURAL SOCIETY.

The exhibition held on the 5th of September was considered the best ever held in that section of the country. The successful exhibitors were:

Mr. Stripe,	Mr. Woodward,
Mr. Gillespie,	Mrs. Morrison,
E. H. Wickersham,	Dr. Shaw,
H. Weyand,	S. A. Duke,
Mrs. Beebe,	Mr. Barclay,
Mr. Boknap,	Mr. Chittenden,
Mr. Fletcher,	Mr. Bauer, Nauvoo,
Dr. Knowles,	Mrs. Miller,
Mrs. Furman,	S. S. Vail,
Mr. Hubbell,	Mr. Voorhies,
Mr. Bridgeman,	Rev. I. Brown,
Mr. H. Tucker,	Mr. J. B. Billings,
Mr. Sellars,	Mr. J. L. Zwart,
	Mr. Wesserzicher, Nauvoo.

Amongst whom we are pleased to find so many of our friends.





Drawn from Nature by Max Rosenthal

Lith by L. N. Rosenthal.

CARVER APPLE.

DRAWN ON STONE EXPRESSLY FOR THE GARDENER'S MONTHLY

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, EDITOR.

DECEMBER, 1861.

VOL. III.—NO. 12.

Hints for December.



FLOWER-GARDEN AND PLEASURE-GROUND.

BEYOND preparing for alterations and improvements to be made next spring,—getting ready stakes, labels, and other necessary items that will certainly be wanted, and preparing things in advance, so that when the busy time shall come, all things will be in readiness,—there is little that can be done in this department at this season.

There are some things, however, that should be done, and for which preparations should be made now, that are not often done, but are very essential to a well-kept place, particularly the *thinning out of trees and shrubbery*, and the *preparing of composts* for plants and flowers. The great fault in most places is the neglect of timely thinning out. We cannot call to mind one place that is exempt entirely from this criticism. Grounds have to be planted thickly when they are first formed to avoid a hungry and neglected appearance. Cheap and common trees may be interspersed with more valuable ones, and when the place is pretty well overgrown, have these indifferent trees taken out. But most places have been thickly planted without any view to ulterior fitness; still, the least desirable should be taken away. One fat, luxuriant, robust tree, perfect in shape from collar to the apex, will give more real pleasure than a clump of a dozen half-starved specimens, struggling with each other for a mere existence.

In thinning-out trees, the best plan is to open the soil away from the stem a few inches under the ground, and cut it away with an axe. Often, the regret to lose a fine tree induces an attempt to trans-

plant; generally, such trees fail from the usual difficulties of removing large trees. When they succeed, they seldom grow with a healthy vigor, and when they have escaped all these, an ugly spot is left on the lawn where the tree came out; for the grass will grow stronger there for years to come, and the lawn have the irregular appearance of a cattle pasture. This is the best season to mark such trees and shrubs as it will be desirable to thin-out, and early in spring the axe may be allowed to do its duty.

Soil for flowers may also be looked up during the winter season. Very few understand that an occasional change of soil is very beneficial to flowers in beds, though all know how important it is to flowers in pots. There is nothing better than surface-soil from an old pasture, taken off about two inches deep, and thrown into a heap with about one-sixth part old hotbed dung, to partially decay. In addition to this "staple" item, smaller quantity of different matters should be gathered together for peculiar cases, or particular plants. Peat, for instance, will be found very useful for many kinds of plants. This is not, as is often supposed, mere black sand; but a spongy, fibrous substance from the surface of bogs and boggy wastes. Sand should be collected sharp and clean; the washings from turnpike ditches are as good as any thing. Leaf mould is best got already well decayed from the woods. That one makes for himself from rotten leaves is seldom good for any thing; it is always sour and seems "indigestible" to vegetation. A load or so of well-decayed cow-manure is a good thing for the gardener to have by him, as all those plants that dislike our hot summers, and want a cool soil to grow in, prefer it to any other manure. A small pile of hotbed manure is almost indispensable to a garden.

Many kinds of trees that do not seem to thrive well, will be greatly improved next year by having a surface dressing of manure or rich soil thrown about them. Evergreens are no exception. A singular notion used to prevail, that manure of any kind was injurious to evergreens, probably through noticing that they were usually found in poor, barren soil. Our best American conifera growers, however,

have long practised manuring them, and with the best results. Guano has been found particularly beneficial to the Spruce family, and it will probably be found as good for the whole family of evergreens.

FRUIT GARDEN.

Now, when "the summer tresses of the trees are gone, and the autumn woods have put their glory on," the fruit grower will have to inquire what he can do to save his treasures from the rapacities of the winter's frosts that will soon be upon him. It is not a generally recognized fact that frost seriously injures vegetation without any immediate effect being visible. Cherries and other fruits will often be fatally injured, and yet no sign of it be discernible until after the plant is in leaf or flower, when it suddenly droops and dies. Yellows, curl, mildew, and other failings, no doubt, frequently owe their remote origin to the effects of frost in times past. We could give an explanation why this is so, and may do so at another time, in another part of our journal. Here we confine ourselves to hints and advice, and in this case it is to protect all fruit trees possible, no matter how hardy they may be. We would have some few trees trained on espaliers so that they might be protected by mats—others so that they might be bent over, and entirely covered with soil, which is one of the very best plant protectors. Where large orchards are planted, we would surround the whole, if practicable, with a belt of evergreens as the best thing we could do. Evergreens not only protect from cold, but they add to the heat by their own exhalations. Let any one hang a thermometer in winter in a clump of evergreens, and another in a near mass of deciduous trees, and he will be surprised at the difference. The hardest fruits are also benefitted by having a cover of litter over the roots, that will prevent the frost penetrating deeply.

Plants suffer severely during hard frost from evaporation, and when the roots are prevented from being frozen, they can better supply the waste. Old tan bark is often used to protect strawberries, which is very well, but old manure or other litter is nearly or quite as good. If an examination in apples, dwarf pears, quinces, peaches, and plums for borers has not yet been made, go at it at once; they make fearful havoc during winter.

GREENHOUSES AND PLANT CABINETS.

THE most interesting tribe of plants at this season of the year is undoubtedly the *Camellia*. The buds frequently drop off before flowering; this may spring from three causes—from the plants being kept too dry, or from the drainage being bad, whereby the

soil becomes sodden; or from the house being kept too warm by insufficient ventilation. As the leaf buds burst, the plants are benefitted by occasional syringings, and indeed an increased supply of water altogether, in order to accommodate the demands of the young growth.

Australian and Cape Plants are the chief ornaments of the greenhouse at this time. The *Acacia*, amongst the principal, will, like the *Camellia*, require more water while flowering; indeed, most plants which produce flowers before they make a new growth, require more water as they flower. On the other hand, most plants which flower on the young wood at or near the completion of its growth, take less. The *Correa* is another beautiful tribe, but does not do well in most collections; it is generally grown in a peaty soil; we observed that where it seems to succeed well, the growers use a considerable portion of loam in their compost for it. This is consistent with our own experience, and we are inclined to the opinion that more loam should be used with the peat for hard-wooded plants than is generally done in this country. As soon as any Cape or hard-wooded plant has ceased to flower, it should be repotted, if it require it; many prefer waiting till the plants are placed in summer quarters before this is done, and some in the fall. We prefer before they commence to grow, whatever the season may be, as the roots being then in their most active state immediately penetrate the new soil, and before it becomes sour or sodden by frequent waterings, reap whatever advantages the air it contains when fresh may afford them. Some greenhouses are rendered very gay in February and March by having young plants of *Verbenas*, *Petunias*, and other bedding-out plants potted at this time into large pots, and encouraged to grow.

Hyacinths that have been out of doors, or in any reserve place for protection, may be brought in a few weeks before wanted; they should not have much heat, light or moisture for a few days, and then only gradually. *Carnations* and *Pinks* are much admired when grown in pots and flowered there early; they do not force well if much warmth be given, but the usual temperature of the greenhouse will bring them forward a month before they can be had out of doors; whenever the roots make their appearance through the bottom of the pots, they should be shifted into a size larger. They require very little water and love the light, and whatever manures are used to enrich the soil should be thoroughly rotten. The *Pansy*, on the other hand, delights in half-rotten, strawy manure and turfy loam. If a quantity of seedlings have been raised in the fall, they will require potting this month; they do not flower well here when the weather becomes

warm; but when grown in pots and forwarded slightly by the aid of a cool frame, they do very well.

Cinerarias will be soon the chief attraction; the least frost kills them, yet they will not do well if kept in a high temperature. They love moisture, yet are very impatient of damp. No plant is more improved by the use of charcoal in potting than this. This plant bids fair to become more popular than ever, as supplying a very early spring want. The *Calceolaria* will require the same conditions as the *Cineraria*.

Pelargoniums become "drawn," spindly, and worthless, if they are not allowed to occupy the lightest and most airy part of the house. If fine specimens are desired, the shoots should now be tied down to the surface of the pots and pinched off so as to induce them to shoot freely; but avoid a too frequent use of the "finger and thumb"—nothing renders a *Pelargonium* weaker; rather encourage them to grow bushy, by the free use of light air and manure-water. A good supply of young *Fuchsias* should be coming on now—re-pot as their roots fill each pot, let them not want for moisture or light, do not pinch off their tops, but let them grow rapidly. The temperature in which they are grown should not exceed 55°. A turfy loam, moderately enriched with well-decayed manure and well drained with charcoal suits them admirably. The *Mimulus* is receiving more attention than it has been—where they are grown they are much improved by having pans of water kept under their pots. *Oranges* and *lemons* will require the coolest part of the house, and to receive no more water than will just keep them fresh. *Epiphyllums*, as they continue to flower, will require the warmest end of the house, and a fair supply of moisture. *Cacti* and *succulent* plants generally will scarcely require water at all, unless in very dry situations, and then receive but a slight sprinkling with a syringe. The rule "when you water a plant at all, let it soak right through," does not by any means hold good with these plants, if there be not some other good exceptions.

VEGETABLE GARDEN.

VERY little can be done now in this department except by way of preparation for another year. Manure can be placed on the ground wherever required, and *asparagus* beds, if not already done, should have a slight covering of it. Bean poles, pea brush, and stakes of all kinds should be got now, the tool house gone over, and put in order, and every thing kept in good order and studiously in its place. When the season of operations commences, there will then be nothing to hold back our atten-

tion. Where there can be a heat of 60° commanded *Bush Beans* can be easily grown in pots, and can be gathered in two months from the time of sowing. If there is an abundance of leaves or manure at command, and small frames, beds may be put up for early spring salads at the end of the month. *Radishes* and *Lettuce* are, however, very impatient of too much heat; they will come on well if the temperature be kept at 45°. When it goes above that, the sashes should be lifted entirely off. The same remarks apply to the *Potato* and the *Early Horn Carrot*. *Cauliflowers* in frames require all the air possible. Never allow them to become dry, this is the cause of many failures by way of "buttoning off."

Communications.

EXOTIC GRAPES OUT OF DOORS.

BY NOVICE.

NOTWITHSTANDING the traditional failures of all attempts to grow the exotic grape in the open air in this country, the writer was tempted to try an experiment this year upon some foreign vines, all of which, since they were planted, (three years ago,) have failed to ripen either their fruit or their wood, on account of mildew.

The varieties grown are the Frankindale, Hanstretto, Malaga, Clapier, Brincklé, and, until this year, the Black Hamburg, Secord's Sweet Water, and Canadian Chief. The latter, after three years of discouraging failure, were removed this spring, to make room for native vines. The Clapier and Brincklé were selected for experiment. The former is a French variety, imported by Mr. Clapier, a former resident of Germantown, Pa. Its name being lost, it was re-named after him. The Brincklé is a seedling raised by Mr. Peter Raabe from imported German seed.

When the Brincklé was in bloom, the top soil was removed to the depth of about two inches, so as to lay bare its surface roots; flour of sulphur was then evenly and thinly sprinkled over the soil and the top soil restored. The Clapier was served in the same manner, but some weeks later, about the period of the second swelling of the fruit. The after-treatment of these two vines was precisely the same as that of all the other native and foreign vines in the garden.

The Brincklé ripened five good bunches, and the Clapier, which was an old vine cut down to two eyes, set and ripened one bunch of large white berries, equal in flavor to the White Frontignan, and much larger. Having been sulphured quite late in the season, it suffered somewhat from mildew,

though less than ever before. The Brinckle was scarcely affected by mildew,—far less than other Brinckles, Dianas and Rebeccas growing beside it. All the other foreign sorts set their fruit freely, but did not ripen a berry, and have lost their foliage by mildew.

Better results would, doubtless, have been obtained had the sulphur been applied early in the spring, before growth commenced.

"One swallow does not make a summer," nor does a single experiment, however successful, establish a principle; yet the result here stated may serve as an incentive, if not a guide, to further trial and investigation. If we can, by any inexpensive method, attain to perfect foreign grapes in open-air culture, it is surely worth persevering effort to accomplish so desirable a result. Trials, however, should always be made on a *small scale*. Investigations extensively and expensively conducted, too often dishearten the investigator, and defeat or postpone a favorable result.

This experiment was first induced by the following facts and reflections:—Sulphur has been found an effectual remedy for the mildew on foreign vines when applied to the foliage or mildly diffused in vapor through the atmosphere of the vinery. If thus, topically applied, it prove a *remedy*, why may it not, administered to the soil, and so taken up by the roots, and entering into the circulation, of the plant, prove a *preventive*? The vine flourishes best in tropical volcanic countries, as Asia Minor, Greece, Italy, Spain, Mexico and California, whose soils are more or less impregnated with sulphur.

Sulphur is insoluble in water; in the air, under certain conditions, it slowly, almost imperceptibly, oxidises and is diffused in vapor. When heated, sulphurous acid gas is rapidly evolved, and, if confined, is very destructive of animal and vegetable life. In the earth it is decomposed, more or less rapidly, depending upon the constituents, condition, temperature and moisture of the soil.

In the case above related, the soil was dug up deeply in October, and no trace of the sulphur applied in the spring could be found, except one or two small masses that had not been well sifted. The rest was apparently entirely decomposed, without even changing the color of the soil.

Sulphur is no *panacea* for vine disease. The plant can neither grow in nor feed on it exclusively. The result of this experiment would seem to be, simply, that the foreign vine needs more sulphur than the native and than is usually present in our soils, and that it should be given in such form or manner as to be assimilable by the vital action of the vine. Perhaps very dilute sulphuric acid, or superphosphate of lime, which always contains free sulphuric acid,

may prove a better medium of supply than the crude sulphur.

Of course, exotic grapes can only be grown when the season is long enough to thoroughly ripen their wood. The beautiful specimens of Black Hamburg, Chasselas, Black Morocco (a very late grape, seldom ripened, even in a cold vinery), and other foreign varieties, grown in the open air, by means of sulphur applied to the soil, which were exhibited at the Grape-growers' Convention held at Lancaster, Pa., October 27th, prove, at least, that our Central Pennsylvania season is *long* enough, and confirm the views held on this subject by a NOVICE.

A SIMPLE METHOD OF GROWING CELERY.

BY A NEW JERSEY MARKET GARDENER.

MR. EDITOR—I have often before given my experience in celery culture in different horticultural journals, but never before, that I recollect of, in the columns of the *Monthly*; and if not repeating a twice-told tale to your readers, I will briefly describe a very simple method, and one which I have not before described, whereby any one who can grow a plot of cabbages may grow a plot of celery, and that, too, pretty much in the same manner as in the culture of the cabbage.

The ground necessary for the growth of celery need not be damp, as is generally supposed. Any good, rich vegetable soil, if level, is all sufficient. Although the plant luxuriates in moisture, if properly applied, yet it is as quickly impatient of stagnant water at the roots as almost any other vegetable.

One of the best varieties for private culture is the Incomparable Dwarf, a solid, stocky, white variety, never attaining more than two feet in length, but of the most delicious flavor. This variety is particularly well adapted to this simple mode of cultivation, which consists in planting the plants on the surface, one foot apart *each way*, so as to form a square bed. The object in having the plot thus square or oblong is, that when the celery is so planted, the plants crowd each other when full-grown, so that in the struggle for light, the hearts are drawn upwards—one of the most important objects to be obtained; which, when the celery is planted in single or double rows, cannot be attained, without the processes of what we call "handling" and "hoeing up." The time of planting is usually the month of July; but if good strong plants can be had, fine celery may be grown by planting in August. Nothing further whatever is necessary in its cultivation but simply hoeing to encourage growth and keep down the weeds, as is

done in a cabbage or onion bed. This, then, is the whole process from the time of planting in July until November. Thus far, it is, of course, green—unblanched; the blanching process being done when stored in winter quarters.

The time of digging up, of course, varies somewhat in different localities. In this district we usually have all put away by the middle of November; and after some ten years' experience, we find no plan so simple or so safe as the French or drain system for blanching or preservation.

The process consists in digging a trench or drain ten or twelve inches wide, and of the depth of the length of the celery. The celery is then packed *perpendicularly* in the trench, moderately tight, until the whole is filled up. It will be understood that there is no soil thrown in about the roots—none being necessary. The roots, being at the bottom of the trench, quickly absorb sufficient moisture to encourage new roots, which, as soon as formed, the blanching process is begun, and the celery will be fit for use in four or six weeks from the time of being put in the trench. It is indispensable to cover the trench with leaves or stable litter to the depth of six or eight inches; but this must be done gradually—two or three inches at a time—as the season advances. If put on all at once, it stops the evaporation from the mass of celery packed in the trench, and the blanching being prematurely hastened, it would not keep so well as if covered gradually.

A great advantage we find in this way of preserving winter celery, is in the easy access we get to it in all weathers,—nothing more being necessary than to remove the litter and take out what is wanted, and cover in carefully again.

I have been induced to offer these remarks on seeing your article on the subject in last month's number, which, although it is, no doubt, all claimed for it, is expensive and troublesome; and in localities where drain-tiles are not to be had, impracticable; while by the plan above narrated, you can have as fine an eating celery as can be produced by any other method, and that, too, at the cost of not more than one cent per head. In field-culture its cost is less than half a cent per head, although the elaborate system of "bunching" it for the New York market costs at least half a cent more.

THE DELPHINIUM.

BY FRANCIS PARKMAN, JAMAICA PLAIN,
MASSACHUSETTS.

THE Delphiniums form a tribe of plants fast rising in esteem, and promising soon to take a conspicuous rank among florists' flowers. Their culture is easy,—nearly all are perfectly hardy,—their flowers are

often of the greatest beauty, and they supply, in their rich and varied shades of blue, the color most deficient in the flower-garden. Some in beds, or others in the garden or on the lawn; others rearing their tall spikes amid the shrubbery; and others, again, standing singly, as decorations of the border; they form, when rightly managed, a neat, brilliant and effective ornament.

The annual varieties are well known. There are also a few biennials in the genus, but they are not equal in beauty to the perennial species. These latter may be separated into groups, of which the Chinese Larkspur (*Delphinium sinensis*) may stand as the type of the first, and the common Bee Larkspur (*D. elatum*) of the second. In the first group the number of varieties is limited; in the second it is almost without bounds. The former is of a somewhat diffuse growth, with leaves very deeply cut; the latter is erect and straight, and though infinitely diverse in the character of its bloom, has the unfailing characteristic of a notch in the two lower petals, which form, what is called the eye of the flower.

The Chinese or Siberian Larkspurs vary a good deal in habit, some being more compact and dwarf than others. These are preferable for most situations. Plant them in a light soil, well enriched with leaf-mould, six inches apart every way, and they will support each other. In June they will burst into a brilliant mass of bloom, long-continued, and renewed later in the season, provided the plants are cut down to the ground as soon as the first bloom is past. Their expanded flowers often gleam in the sun with a peculiar metallic lustre. Some are of the deepest blue,—some of a softened tint, precisely like that of the sky on a clear summer day,—while others are pure white. These varieties should be separated, and separate beds or circles in the grass made of each. The dark blue varieties are often marked with a red or purple spot on each of the extended wings of the calyx. A few are seen of a lilac tint. Double varieties of all occur, usually much superior in beauty to the single. In a bed of seedlings we sometimes find individuals bearing flowers twice as large as those of its companions; but this peculiarity will not perpetuate itself with any certainty by seed. The beautiful *Delphinium* known as "Breck's No. 1," may be referred to the Chinese division of the tribe.

A species, which may be called intermediate between the Chinese and the Bee Larkspur, is well worthy of mention here, not so much for its own sake, as for that of the beautiful varieties which have either sprung from it or are closely assimilated to it. This is the *Delphinium cheilanthum*, a native, like the former, of Northern Asia. It is the parent

of two fine seedlings, *D. magnificum* and *D. Hendersonii*; and is, if not the parent, at least the near kin, of the splendid *D. formosum*. The name of the first of the three, by the way, is sometimes, in this neighborhood, erroneously applied to a tall and palid variety of *D. elatum*. The trio resemble each other closely, the first being the least desirable. *D. Hendersonii* is a shy seed-bearer, and with me has never borne seed at all; but I once procured seed of it, expressly guaranteed as "true," from one of the best and most trusty of the English seedsmen. Of the plants which resulted, a few bore the features of the reputed parent, while the greater part showed the broader sepals and golden coloring of the unmistakable *D. formosum*. Granted the good faith of the seedsman, the experiment may be held to prove that the two are mere varieties of the same species. *D. formosum* is one of the finest of the English seedsmen. The freedom of its growth, the ease of its culture, the size, metallic brilliancy and rich profusion of its deep blue flowers make it, to borrow the hackneyed phrase, indispensable to every garden. Last May I planted several hundred young seedlings, raised under glass, about the end of March, in a carefully prepared bed. The soil, a strong loam, was trenched two feet deep, dressed with peat, a little sand and old manure, and the whole well incorporated with the spade. Into this the seedlings were turned out of their pots at intervals of eight inches. In June the whole burst into flower. The lustrous mass of bloom, seen from a distance, lay beneath the foliage beyond, like a stream of water, preternaturally blue. The flowers were of unusual size, the largest measuring two inches across.

This variety is a good seed-bearer, and always "comes true;" that is to say, without any essential variation. Very rarely in a seedling the eye of the flower will be pure white; whereas, it is commonly shaded with blue or purple. The flowers vary also in the coloring of the sepals, and in their degree of symmetry. Among the seedlings just mentioned, was one very striking, from the almost perfect roundness of its form, and its deep and vivid blue. Being thought worthy of the superlative degree, it was christened *Delphinium formosissimum*.

The culture is the same for all the members of this group. They like a rich, light soil, and an open, sunny exposure. A little peat or leaf-mould is very beneficial, and they will bear in this climate a good proportion of animal manure, provided it is well rotted. Cut them down after their first bloom, and they will reward you with a second. Indeed, with a little management, they may be kept in flower throughout the season.

Of the Bee Larkspurs and their innumerable kindred, I shall speak in the next number.

THE PRONY ONE OF THE MOST NORTHERN PLANTS.

BY W. R. PRINCE, FLUSHING, N. Y.

HAVING noticed in your columns some very appropriate comments on the splendor of the numerous species and varieties of the *Pæony*, which appear to have attracted so much attention at a Parisian exhibition, I have thought it would be a matter of interest to your readers to present a summary of the different species and of the gorgeous varieties which the (so-called) barbaric China and Japan presented to the world whilst Europe was actually in a state of utter barbarism, and long antecedent to the period when any of the nations we call *civilized* had ever blended the pollen of flowers, or produced any new variety by artificial means.

The most important and splendid of this family is the *Moutan* or *Tree Pæony of China*, a very hardy shrub, growing to the height of three to four feet, and expanding its roots and shoots so as to often cover a space of six to eight feet in diameter. Of this species there were introduced from China, in 1789, three varieties—the *Banksii*, *rosea*, and *papaveracea*.

It is related that Lord Macartney's embassy to China in 1795 saw a collection comprising two hundred and forty varieties of the *Moutan*, and yet it was not until the recent expeditions of Robert Fortune to that country that any new varieties were obtained. Of these, twenty-two have been named and described, and are now to be found in many collections. My father made frequent attempts to import new varieties from China from 1810 to 1830, and finally succeeded in obtaining a dozen living plants in large and peculiar green glazed pots, every one of which proved to be the *rosea*. The three varieties existing in Europe he imported at the price of one guinea for *Banksii*, three guineas for *rosea*, and five guineas for *papaveracea*.

As it takes from four to five years for a seedling plant to produce flowers, we may form some idea of the immense period that must have elapsed during which the Chinese amateurs were producing the seedlings from which they made their selection of two hundred and forty varieties. I wish here to premonish your readers, that this species is a native of Northern China and Tartary, where the thermometer falls as low as in the most northern limits of our country.

The next species in point of importance is the *albiflora* of Siberia and Tartary, a tuberous, herbaceous species, growing to the height of two and a half feet, with large single white flowers, which was obtained from China in 1784, and of which three double varieties were imported from there in 1790, the *Whitleyii*, *Humel*, and *fragrans*. It is of this

species that very numerous varieties exist in China and Japan, and from which the French and Belgians have produced above two hundred most admirable varieties, and ourselves about fifty varieties.

It is an amazement to what an extent the varieties of this species have been multiplied, combining every hue, several of which have yellow and straw-colored flowers. They are so rustic and easy of culture, that no one can fail in having fine flowers, and the plants will become so enlarged as to afford hundreds of flowers from one stool.

Pæonia officinalis—this old tenant of our gardens is a native of Switzerland; and the common crimson variety has been grown since 1548. We can boast of but ten varieties to contrast with the hundreds which the Chinese produced.

Pæonia paradoxa is a native of the Levant, rather more dwarf than the preceding, and the foliage more downy. Of this the French have produced about twenty-five double varieties, many of which are very neat and beautiful, and mostly of crimson, violet, and purple hues.

[To be continued.]

THE NATURE OF MANURES.

BY BROOKLYN.

DIFFERENT manures act so differently, that a classification of them might be acceptable to your readers. What I state here is my own experience, gathered in cultivating the farm and the garden, and is noted with the hope and wish that it may draw out the experience of other and better gifted readers.

Horse-dung.—Dry, hot, and soon consumed, because it heats rapidly and strongly; good for cold, wet, and tough clay; bad on warm and sandy soil; best thing for pits. According to purpose desired, very excellent if mixed with more or less spent tan, lime, and rotten leaves.

Cow-dung.—Very mild and very "pleasant;" acts slowly, but all the more surely; good for any kind of soil, especially for warm and sandy soils.

Pig-dung.—Cool, watery, mild, fermenting very slowly; of much benefit to meadows and nurseries, otherwise little useful if not mixed with other manures.

Sheep-dung.—in its action and nature resembling horse-dung, only "more so;" kills plants pretty effectually, if not used with great discretion; excellent, of course, for your stiff and heavy clays, to which it will impart warmth and life.

Goat-dung I know little about, but I hear it is similar to sheep-dung.

Fowls.—Their excrement is generally of the sharpest

kind of action. Like all such potent agents, they may prove both poison and meat, according to the hand that applies them. They can be rarely applied in a "neat" state, but must be diluted with water or urine matter, or they will consume the vegetable material in almost no time. Best mode is to apply them on the ground just before a nice April shower, and let the rain dissolve the matter. Miraculous will be the effect therefrom. In regard to potency, this seems to me the classification: 1. Pigeon. 2. Chicken. 3. Geese and ducks. 4. Turkeys.

Pigeon manure is praised for grapes, giving them color and flavor.

Human excrements are too caustic to be used by themselves, but all the more fit to be mixed with cool substances, as sods, leaves, or with lime, etc.

In return, I wish to know if manure has ever been known materially to effect the color of flowers, or the taste and flavor of fruits and vegetables.

Also the results of experiments, made with different manures, on a given object.

BARREN SEEDLING FROM FOREIGN GRAPES.

BY PROF. C. G. PAGE, WASHINGTON, D. C.

JUST two years ago I discovered a bunch of grapes on a seedling vine growing near an oak tree on my grounds, into which it had climbed by means of underbrush to the height of fifteen feet. The fruit was superior in flavor, about the size of Catawba, and the color of Black Hamburg. The foliage is decidedly foreign, and the growth very distinct. I removed the vine to a congenial place in the garden, where it has proved to be an enormous grower, and hardier than any other vine in the garden. This spring it set an immense bloom, but every flower was abortive or purely staminate. As this was a chance seedling, I cannot vouch for its parentage, though I presume every one would infer from its growth and foliage that it was foreign. But I can vouch for the following facts, that two years ago it bore fruit, and this year all the blooms were males. I have usually permitted all the chance seedling grapes about my grounds to grow, and have transplanted many to good soils, and thus far every vine (five in number) has proved to be abortive or male. For the sake of trial, I have suffered one huge vine to bloom for eight years in succession, and it has always been obstinately and entirely male.

INFORMATION GIVEN AND DESIRED.

BY A DELAWARIAN.

I AM induced to write a line to thank, through you, Fox Meadow, for having prevented me making a

permanent investment in the Allen Raspberry. It is exactly such statements as his last that benefit the horticultural public. We hear too much of the good,—the worthless is too rarely condemned. Now, although I have not the acquaintance of Mr. Fox Meadow, yet I intend to ask a favor of him, and that is, what are his opinions, if he has made his mind up, on three new foreign grapes, viz.: Black Barbarosa, Trentham Black, and Buckland Sweet-water? And can you inform me when the book on Grape Culture, that was announced from the same source will appear? I have been anxiously awaiting, as a book from such an experienced cultivator will be looked to by many as a guide.

If Mr. Bright, of Germantown, would also give his views on the same subject, we would then have two independent and not easily biased opinions to guide us. We know that Mr. Bright brought with him from Europe a number of the latest novelties in the grape line; as he may have tested some of them, will he be good enough to let us hear from him through the *Monthly*?

A word about the native grapes. Delaware still maintains its high position, although pressed hard by Maxatawny—a new grape brought before the public by Mr. Crans, who liberally distributed the wood, and who, from present appearances, deserves the thanks of the entire horticultural world for having introduced the highest flavored native known. The berries are larger than Delaware, light flesh color, and the vine a vigorous grower; may be safely put down, promising *very* well.

If a man wants a vine for shade, Taylor's Bullitt is decidedly that vine; it is the most rampant of a large collection; about the fruit I know nothing.

El Paso, from the patent office, is a foreigner and worthless, as most every thing that comes from that source is.

Brandywine, although brought out with some noise, is also foreign and worthless for out-door culture.

Of Pears, the only two that bore fruit new to me were Ananas d' Ete, which was eaten August 24th, and very good, and Brandywine, a russety-coated, high flavored pear, with skin a trifle too astringent, but very well worthy of general cultivation.

Please remember, Brandywine Pear—good; Brandywine Grape—good for nothing!

Duchess d' Angouleme and Louise Bonne de Jersey produced fine crops, and are varieties worthy of general cultivation on the quince.

Bartlett was, as usual, unsurpassed in its season, but is ripe amid such a variety of good things that it is hardly appreciated. What would such a sized pear, as good a bearer, and in every other respect as desirable a pear be worth if it would ripen in Novem-

ber and keep until February? We have too much fruit at one time and too soon over with. Late autumn and winter varieties should receive more attention.

Winter Nelis and Lawrence stand very high among the winter pears, although the former has a bad name as a poor straggling grower; with me although not so vigorous as some, it is thrifty. I shall, without hesitation, recommend it. Winter Nelis is said to be in flavor among winter pears what Seckel is in autumn. Say a good word for it.

[We should like to inquire whether Winter Nelis does not crack badly in most localities, whether it is ever any thing but a poor bearer, and whether the Lawrence is not as poor a grower as the Winter Nelis? Such has been the experience of some growers. There are a great many excellent winter pears, but so little attention has been given to *cheap* and handy plans for preserving and ripening them, that they are unpopular, and thus there seems to be but few kinds. "Pity 'tis, 'tis true," for those who have only eaten pears as they come from the tree, have no idea of the delicious taste of a well-ripened winter pear. The Brandywine is considered by many Eastern pomologists the best Pennsylvania pear. We have not heard of the progress of "Fox Meadow's Grape Book." Should be obliged by his and Mr. Bright's response to our correspondent's grape inquiries.—ED.]

A SUCCESSFUL ICE HOUSE.

BY C. B., CHESTER CO., PA.

TEN years since, I built an ice house. After inquiry and reflection, I adopted the following details of construction, which has proved a complete success, the supply rarely failing until ice forms again.

I chose as location, a north-laying bank, of sandy formation, made the excavation a cube of thirteen feet, or so that the earth removed would bank up to that height, put in an eighteen inch *dry wall*, except the top foot, which was mortared; inserted on each side three pieces of 3 by 4 inch scantling, to which perpendicular 1-inch pine boards were nailed as lining; put on a light shingle roof of double pitch, left the spaces at the eaves between the rafters *open* for a draft of air to enter, and placed a small Venitian window near the top of the north gable for its escape. Before putting on the shingles, and after nailing lath on the underside of the rafters, the intervening space was tightly packed with straight straw; the roof is kept whitewashed. The south gable consists of two doors, one of which answers for general use, but when filling, the ground being level on that side, both are opened, a small platform placed in front of them, and the ice is shot directly in from the cart. The bottom was made about one foot

deeper in the middle than at the sides, and 8 to 10-inch chestnut logs laid across it close together; the ice is thrown on these.

I fill only to the square with ice, and the remaining space with wheat straw, which I am careful always to keep covered over the ice and packed down the sides a foot or two, as it melts, leaving a space of about one foot between the ice and the lining. The bank was well sodded up to the wall, so as to throw off rain-water falling on the roof and prevent its ingress to the house. Free daily use is made of the ice during all the warm season, for a family of nine, and there is usually about a load or two over. The capacity of the house is about twenty well-filled ox-cart loads, with side-boards. My practice appears to accord with the theory and principle of "J. C. B."

THE DWARF JUNE-BERRY.

BY J. STOUGH, GENESEO, HENRY COUNTY, ILL.

REMARKS in some of the late *Monthlies*, about the June-berry as a stock for the pear, reminds me to inquire if you have the *dwarf* June-berry? I never see it mentioned in any nursery catalogues.

We got it some thirty years ago. Ours were found growing wild on the top of the Allegheny Mountains. It grows from three to five feet high. For a stock for dwarfing pears, I do not know its equal. Hardy, sound, healthy and long-lived. Not as large as the quince. But for their own fruit they are much superior to the large kind; they bear with certainty and profusely every season. I think the fruit a little better and larger than on the large trees.

When I have not more than fifty bushes on my farm of five roods, I have none to sell or make pear trees of. They might be easily increased, and rapidly from seed or layers; not readily from cuttings. Have a large increase from seed and layers this season.

[The plant alluded to is probably *Pyrus arbutifolia*.—Ed.]

RHODODENDRONS.

BY A MIELLEZ, FLUSHING, N. Y.

[Continued.]

HAVING tried to show how to improve rhododendrons by grafting, I now proceed to what may properly be called the first part of the work, viz: to raise stocks of standard varieties.

Very little has been done in this line, and I think you well may call it a "lazy" and "ignorant system" under which it has been done.

The little extra attention that has to be paid to seedling rhododendrons, will be amply repaid by their subsequent success, and the common phrase,

"it won't pay," is inapplicable in this respect.

In order to secure good stocks, collect seeds from such plants that have the type of Catawbiense, maximum, Californicum, and a little ponticum in them; or, if in want of these, cross the latter species with each other, and select such plants for seed-bearing as have the requisite qualities of the parents, i. e., the hardiness of Catawbiense and maximum, the fine and robust growth and leaves of Californicum, with the facility of forming an abundance of fibrous roots of ponticum. The raising of standard varieties requires some little judgment, in order to keep all the desirable points in view, viz: hardiness, clean and robust growth and foliage; large, erect truss of flowers; clear, distinct colors, the single flowers of good substance; and with round petals; to which may be added a good, distinct blotch of spots. The first consideration should be given as to the hardiness and robust growth of the sort to be fertilized, to insure the same qualities for the breed. Next in view should be a stiff, erect truss of good substantial flowers. Where these qualities are combined in a variety, any desired shade of color may be brought upon it, from pure white, through the different shades of rose, cerise and crimson, to blood red and scarlet; and again from white through lilac, claret, violet, plum-color, etc., to deep purple. Though all these different colors have been obtained by skillful cross breeding between the American and Indian species, it is not advisable to use *R. arboreum* for breeding, as the first crosses of it are, in a great measure, liable to get their flowers cut by spring frost, on account of their early flowering.

The following list of hardy varieties will furnish a good selection, both for breeding and propagating by grafting:

Whites and blushes, or light colors, viz: Album elegans, Candidissimum, Delicatissimum, Athens, Chancellor, Californicum, Columbus, Cœlestinum novum, Cunninghamii, Diadem, Exquisite, Faust, Invincible, Leda, Minnie, Mr. Otto Forster, Mrs. Mangles, Star of England, Queen of the Fairies, Standish's Perfection.

Different shades of pink and rose color, viz: Amazon, Aurora, Briarcus, Broughtonii, Ceux, Criterion, Concessum, Eclipse, Etoile de Flanders, Esperance, Flora Macdonald, Lady E. Cathcart, Maculosissimum, The Gem, Mrs. John Waterer, My Seedling, Paxtonii, Pythagoras, Queen of Portugal, Roseum elegans.

Shades of red, cerise and crimson., viz: Aurelian, Blandyanum, Brayanum, Chloë, Erectum, Generalissimo, General Wilson, Giganteum, Jago, John Gair, Majesticum, Mr. J. C. Stevens, Neilsonii,

Prince Imperial, Reedianum, Rifleman, Robert Barns, The Colonel.

Different shades of blood red and scarlet, viz: Alarm, Brilliant, Brebneri, Garibaldi, Mars, Mr. John Waterer, Lord Clyde, Sunset, Vesuvius, The Major.

Purple, claret, lilac, etc., viz: Amilcar, Beadsman, Everestianum, Fastuosum, fl. pl., Lucy Neal, Maculatum grandiflora, Maculatum nigrum superbum, Marion, Magnoliflorum superbum, Monstrosum, Oberon, Orlando, Prince Arthur, Schiller, Shakespeare, Young Seidel.

Rose and crimson, with white throat or margin, etc., viz: Bylsianum, Limbatum, Fleur de Marie, Nobleanum bicolor.

The best time to apply the pollen to the pistil of the flowers to be impregnated (the stamina of which have to be cut out as soon as the flowers open) is about nine or ten o'clock in the morning, when the whole plant has fully revived from the invigorating slumber of night. The puberty of pistil and stamina will be easily recognized by the careful observer. The passillary part of the pistil appears viscous, while the stamina issue pollen from their cells, especially when brought in contact with the pistil. As it may happen that there be a delay of a couple of days in waiting for pollen of a desired variety, the to-be impregnated truss of flowers has to be enclosed with gauze, lest bees or other insects should happen to carry pollen to them; whereas, there is but little fear from that quarter after they have been once properly impregnated. More convenient, however, it will be, if those sorts to be used for impregnating come into flower first, as the pollen may be preserved for at least a month, ready for use when wanted, though it, of course, be best if they come into flower together; and where there is a good collection there will be very little trouble in this way; moreover, some of them may be easily retarded, while others are forwarded.

TREATMENT OF SEEDLINGS.

On the beginning of February take earthen pans or wooden boxes, provided with holes in the bottom, and six inches high, of any desirable shape and size, and fill them half with broken pots for a drainage; then mix peat with one-third of white sand,—sift it and put the rough part of the peat (that which remains in the sieve) over the crocks, (a layer of about an inch,) and fill up the pans or boxes with the fine soil; shake gently, so as to settle the whole evenly, and smooth off the surface with a piece of board, at the same time giving a slight pressure.

Having the required quantity of boxes prepared in the way prescribed, sow the seed moderately

thick on the surface; take some fine dry peat and sand of the same proportion as before, and strew over, but so as to barely cover the seeds, (some prefer leaving them wholly uncovered,) and sprinkle with a very fine-rosed watering-pot. The seed-boxes may be put into a propagating-house, stove or forcing-house, of about 75°. They need no light till the seed germinate, about ten days or a fortnight, when they should be put near to the glass. Protect them a little from very bright sunshine, and be careful not to let them get dry, although an excess of watering should be equally avoided. Particularly beware of dripping places in the house; they will incur often great loss, as the seedlings in this young state are liable to get damped off.

[To be Continued in our Next.]

PISTILLATE STRAWBERRIES

BY C. C. BURLINGTON, N. J.

It has always appeared to me very surprising that so much paper, ink, time and good nature should have been wasted in the discussion of a subject so apparently easy of solution as that of the sexual differences of strawberry plants, which has produced so much wrangling among growers and fanciers, and which would seem only to require a good pair of eyes, to say nothing of a small microscope, to settle, as far as the main facts are concerned, upon which the different theories are based in regard to the comparative merits of the (so-called) staminate and pistillate varieties. The whole matter, it seems to me, can be presented in a nut-shell. In the first place, there is no such thing as an *exclusively* pistillate strawberry flower (at least, I have yet to see one); all possess stamens, though with filaments of greater or less lengths; some being so short, it is true, as to render the anther scarcely visible; but if a flower of the varieties called pistillate, is closely examined, a ring of stamina will be seen, in the same position as those in the most perfectly staminate flowers, but so much depressed and concealed as to be, under some circumstances, of very little or no service in impregnating either their own flowers or those of other plants; yet under other and more favorable circumstances, these same stamina may answer all required purposes. Thus the climate of England may favor the *general development* and distribution of the pollen of their apparently defective stamina, so as to produce fair, or even large crops, without the propinquity of more decidedly male plants; hence the belief of Dr. Lindley, that "pistillate" plants have never appeared in England, may be perfectly orthodox; and hence Mr. Glede's success in producing crops under glass, may be owing to some peculiarity of treatment or atmospheric influence tending

to the same development. I presume we have, all of us who have tried the experiment, found fruit, to a greater or less extent, upon "pistillate" plants under glass,—the *extent* of which, will always depend upon whether the house is much visited by *bees* during the flowering season; which fact must be taken into consideration in regard to the same plants growing out of doors. Those plants having their anthers elevated above their pistils, require no foreign aid in their impregnation; and those even in which the stamina are *almost* wanting, may, by the aid of the bees, in countries where they are very numerous, produce good crops. One thing I have noticed in my little experience, that the fruit of pistillate plants under glass, even when helped by artificial impregnation, was inferior, and of *entirely different shape* from the same variety out of doors; which was not the case with the perfect varieties.

[Some varieties throw up hermaphrodite and pistillate spikes of flowers from the same crown. In such cases, the fruit on the hermaphrodite spikes have been observed to be very different in shape from those on the pistillate ones.—Ed.]

A CHAPTER ON CACTUS.

BY R.

"WHAT a whim of Dame Nature! Did the good old lady want to show us what she can do in the way of ugliness?"

"It would not be a bad idea to have a few ourselves, would it? Let them be the frightful examples, they will show off the beauty of our collection."

Thus spoke my good friends, Mr. and Mrs. W——, when they happened to see my little set of cactus plants. Thus spoke, before and after them, a good many folks. And not a few of them have their own collection now. Nothing like Mr. and Mrs. W——'s cacticum, though, (if I be allowed the making of that word,) for their's is quite an affair, and not every body can afford it. But whatever the number of plants,—be they six or be they six hundred,—the owner takes no less pleasure in them, and cherishes the possession of these deformities about in the same ratio as a mother makes a pet just of that one of her children that's got crippled. Can I help smiling when I see these cactarians fondle their nurselings now, after their having smiled on me with a smile full of generous pity, yet superiority, when they saw me fondle my own?

Whence this fascination?

It won't be difficult to explain it, kind reader of the *Gardener's Monthly*. Does not the very first sight of the cactus give us already a pleasurable shock? Suppose that, roaming over the bottoms of the

Nile, we stumble on a nest of hippopotami, young and old, large and small. Surely the sight would fascinate us. The gambols of these awkward monsters would delight us; their anatomy would interest us; and, perchance, we would poke one of them in the ribs merely to judge of the metal of his voice. Again, some people tame bears, others fancy ravens, still others think there is no dog like the Scotch terrier. And we are but right when we don't impugn their taste. The fact is, that uncommon ugliness gives us as pleasant a shock as uncommon beauty. Nor is this trait confined to a sense of sight alone, but extends to that of feeling,—rough towels, for instance, a positive delight to the skin; and farther, to that of taste—say bitters, pickles, cigars, and who will deny *their* charms? And, in consequence of taste, it can't help reaching the sense of smell at the same time,—in proof, these same cigars, Russian leather, cow-stables, &c.

Getting, however, to nearer acquaintance, our cactus begin so show us their own charms, and remind us of some plain friend of ours,—male or female, kind reader, as you please or have experience of,—who, decidedly plain, yet interested us at first sight; but when she began to speak, positively fascinated us till we forgot that there was such a thing as face at all.

But I believe I have jumped too high in comparisons. That angel of a woman, with her heart and her mind, is as much above my plants as the hippopotamus is too low. Let my cactus keep the middle between them, and let me here discuss their merits.

Granted their ugliness. What interests us so much in it? Probably the absence of leaves, that distinguishing feature of most plants. Next their form, if not *distingue*, as milliners would talk, still unique. Next the diversity of their form—from the tall opuntia to the low, winding, creeping, serpent-like cereus, and again to the Mamillaria, that look so much like balled-up hedge-hogs.

And now come other features, prominently their own, by which they claim our interest. Their twigs and thorns, odd way of branching, their tenacity of life, the impunity with which they may be neglected, the dark corners they may be stowed away in when they are not wanted, and their being all over so much the same that the smallest thumb-pot specimen (of its kind), is as perfect as the biggest, and that you can't help thinking of the worm which, cut into pieces, seems each piece a worm.

When you have had any cactus in your window or your greenhouse for a little while, minor details will begin to court your eye. Such as the peculiar green, green-gray or gray-green, lustreless, boding the desert; again, the leather-like skin, evidently against the tropical blaze preventing the evapo-

ration of the sap,—that sap which cheers both man and his beast when the tongue cleaves to the palate and the brain reels for thirst! You know at once why these cactus have been made at home only within the tropics; also why they grow where nothing else will grow, and so accompany the poor traveller across uninhabitable stretches of land. It is on the score of this succulency, also, that botanists have chosen them as objects of their observation; the structure of their cells and their anatomy in general being of the most interesting kind.

Enough now of their ugliness, and let us turn to their beauty. Raise a cactus till it flowers, and you will be repaid; for their flowers have been given the intensest and most splendid hues, dazzling and attractive; and, that a cavilling spirit may have nothing to fasten its hooks in, perfume has been given them also; to some, at least such as the *Cereus grandiflorus*, the flower of which, expanding over night, emits a vanilla-like scent of the sweetest kind.

What more shall I say in behalf of my clients? Those people who live in the lands of the cacti will praise them for the fruit—aye, fruit—which they yield; particularly the genus *Opuntia*: approaching in taste our currants, to which they are also botanically allied. They will praise them for the impenetrable hedges and enclosures which they make,—for the “timber” and the fuel which the large kinds yield them; and, finally, for the pleasant acidulated beverage which flows from most of them when they are tapped.

HISTORY OF THE NELUMBium, NEAR PHILADELPHIA.

BY COL. R. CARR, WEST PHILADELPHIA.

I HAD flattered myself with having the pleasure of seeing you ere this, but have been disappointed in getting the papers which I wanted to refer to respecting the introduction of the *Nelumbium*.

I will merely now state a few of the facts of which I have knowledge.

The elder John Bartram (the botanist) had a brother named William, who settled in North Carolina, near Cape Fear river, about the year 1725. On his property there was a large pond or cove of the river, in which the *Nelumbium*, then called *Nymphaea*, since named *Cyamus flavicomus*, grew in abundance. Knowing his brother's fondness for plants, and this being new to him, he sent a box of the roots and a quantity of the seeds, which arrived safely and were planted in several places in which Mr. Bartram hoped they might thrive. (This was Mr. Bartram's practice with many plants.)

I have seen the copy of the letter which Mr. Bartram wrote to his brother, acknowledging receipt of

the plants and seeds in good condition, and that he had planted part in his new garden and part in other places, in hopes of being able to naturalize them.* We had them many years in a small pond in the garden, and when we wanted a number of roots or some seeds for our botanical correspondents, we went to the pond, or large ditch, below the city, in the meadows, then called “*Brogdens*,” where they flourished in great abundance.†

Mr. William Bartram informed me that his father had planted them there on the property of an old friend; and about the year 1822, the venerable Timothy Matlack, of Philadelphia,‡ was in the Bartram Garden, when some of the plants were in flower, and, on my mentioning the quantity growing in *Brogden's Creek*, he told me “that they were abundant in *Old Man's Creek*, New Jersey, and that Mr. John Bartram had planted them in both places; that he had been down to *Old Man's Creek* on one occasion with Mr. John Bartram, to procure various seeds and plants, and that then Mr. B. informed him that he had planted the *Nelumbium* there and near *Gloucester*, as well as in *Brogden's Creek*, and other places.” I have written this note in haste, but you can make use of it if you think proper.

[We are much indebted to our kind friend for this new chapter in our horticultural history, and yet we cannot reconcile the statements with others that have become part of the record of the times. For instance, the inference is very clear, from a letter of Peter Collinson to John Bartram, dated February 22, 1750, (see Darlington's Memorials, page 181,) that Bartram had written to Collinson, describing a “curious plant” which his “ingenious friend Kalm had found near Philadelphia;” to which Collinson replied, that he “knew the plant full well;” it was the *Nelumbium*, and he was surprised that it had been found aboriginal so far north of Carolina. It is hard to believe that Bartram, whose straightforwardness and honest simplicity were proverbial, should have pretended to Collinson that it was aboriginal, and a new discovery to him in 1748, if he had himself planted it there between 1725 and 1731; and yet we can put no other construction on the circumstances, if all were as stated by our friend in the present note. We are still further puzzled when we turn to another letter of P. Collinson to John Bartram, dated February 2d, 1760, in which Collinson taunts John Bartram with an astonishing lack of “industry,” that with this plant near him wild “in

* This must have been previous to 1731, as he mentions the building of his new stone house, which was built in that year.

† When a school boy, in 1784–1791, I was in the practice every summer of going down to this point to gather the “*clanquippus*.”

‡ Then Prothonotary of the Supreme Court.

the Jerseys," he had not yet got it growing in his garden. (See *Dar. Mem.*, p. 222.)

Are we to believe now that Bartram had it growing in his garden all the time, and for thirty years before? We are disposed to believe that the "Nymphaea" referred to in our friend's note could not have been the Nelumbium in question, but some other plant, and that our theory, that the Nelumbium owes its existence north to the Indians, is in all probability the true one.—ED.]

AERIAL ROOTS ON THE SCUPPERNONG GRAPE.

BY J. THOMAS MADISON, INDIANA.

As you ask for information in regard to aerial roots on page 313 of the *Monthly*, I will offer my store of knowledge, (which is limited, to a memorandum five years old,) with some later observations. The *Vitis vulpina* is the vine referred to, I believe.

Muscadine of the Mississippi Valley and Scuppernong of North Carolina are, I believe, identical. One is said to be a variety of the other. On the Mississippi and Forked-deer bottoms, I have seen those roots from two to ten or twelve feet long, hanging like hairs from a horse's tail, for twenty or thirty feet along the stem, the lower extremities of the roots not being within twenty feet of the earth. Vines growing erect seldom have any but those growing somewhat horizontal, or having a crooked stem, emitted roots in abundance on the underside of the vine near the point where the vine assumed an upright direction. The rootlets have the appearance of clean washed roots, about one sixteenth of an inch thick, and look fresh and plump, and having a tender whitish spongiole.

At first I supposed the emission of roots was caused by water standing around the stem in the growing season, but found they were far above high water; however, it is deep shade in the bottom.

I did not observe any, to my recollection at present, on the high ground where the vines were not so shaded. The bark of the vine is smooth as that of Beech or Hornbeam, and said to be hard to grow from cuttings. I did not observe any roots except on the main stem of the vine.

The fruit is larger and more of an oblong oval than the Isabella Grape, and from one to three or four berries in a cluster, and drop very easy when ripe. A light jar of the tree they grow upon, and the berries drop. They are prized very highly by those who never tasted a grape like the Catawba. They are more strong of the peculiar musky flavor

than any Fox Grape I ever tasted, and consequently unfit for the palate.

[Very much obliged for the information.—ED.]

FRUIT FOR EASTERN NEW YORK.—The Farmers' Club of the American Institute adopted the following list at a recent meeting, best adapted to that region, from last year's experience:

Summer Apples—Early Bough, Early Harvest, American Summer Pearmain, Summer Rose.

Autumn—Autumn Bough, Gravenstein, Hawley, Fall Pippin, Porter, Jersey Sweeting.

Winter—Baldwin, Rhode Island Greening, Jonathan, Monmouth Pippin, Spitzenburg (*Æsopus*), Tallman's Sweeting, King of Tompkins County, Boston Russet.

Summer Pears—Doyenne d'Ete, Dearborn's Seedling, Beurre Giffard, Rostiezer, Tyson.

Autumn—Bartlett, Seckel, Beurre d'Anjou, Beurre Superfin, Beurre Boussock, Duchesse d'Angouleme, (on Quince,) Flemish Beauty, Fondante d'Automne, Sheldon, Urbaniste.

Winter—Beurre Gris d'Hiver Nouveau, Beurre Diel, Lawrence, Vicar of Winkfield.

Cherries—Belle de Choisy, Bigarreau or Yellow Spanish, Black Eagle, Downer's Late Red, Early Purple Guigne, Elton, Black Tartarian, Governor Wood.

Plums—Green Gage, Coe's Golden Drop, Imperial Gage, Washington or Bolmar, Smith's Orleans, Jefferson.

Peaches—Crawford's Early, Crawford's Late, Early York, (large,) Bergen's Yellow, George IV., Old Mixon Free, Morris' White.

Clings—Heath, Large White, Old Mixon.

Nectarines—Downton, Stanwick, Early Newington.

Apricots—Dubois' Golden, (American variety,) Peach or Moorpark.

Grapes—Delaware, Diana, Concord, Union Village, Hartford Prolific, Isabella.

Quinces—Orange, Rae's Seedling, Portugal.

Currants—Large Red Dutch, Versailles, Victoria, Large White Province, White Dutch, Black Naples, White Grape Currant.

Gooseberries—Downing's Seedling, Houghton's Seedling, (hardy American varieties, and free from mildew).

Raspberries—Fastolf, Hornet, Franconia, Orange, Belle de Fontenay, Catawissa.

Strawberries—Triomphe de Gand, Bartlett, Wilson's Seedling, (acid,) Hooker's Seedling, (sweet,) Jenny Lind.

Blackberries—New Rochelle or Lawton, Dorchester, Newman's Thornless.

The Gardener's Monthly.

PHILADELPHIA, DECEMBER 1, 1861.

§ 7. All Communications for the Editor should be addressed, "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY, Box 106 Philadelphia."

§ 7. Persons sending two new Subscribers for 1862 in addition to their own, with \$1.00 can receive a copy of our Fall Volume (1861) free. All persons who have paid their subscriptions for 1861 by sending two new Subscribers and \$2.00 can receive a copy of the same.

OUR NEXT VOLUME.

THE public look for an Annual Address from us as regularly as they expect the President's Message to Congress. A magazine, too, stands in pretty much the same relation to its readers as the President does to the people. Both owe their positions to popular favor, and it is but right to expect a full account of their stewardship.

Of the past we need scarcely speak. We are now entering on our fourth year. Our talent, whatever it may be worth, has not been wrapped in a napkin. On the part of the Editor, a life-time of experience—twenty-five years of daily study and labor in horticultural pursuits—has been freely, and, in a great measure, gratuitously, offered for the public good; and the Publisher has as freely advanced his time and means to bring the *Monthly* up to its present position, without a thought of pecuniary profit. The great fear of its friends was, that *cheapness* and *excellence* could not be united. "You may," said they, "by scissors and paste, spend half an hour a month in copying from better papers than your own; or you may employ a clever clerk to steal other people's ideas, and re-write them up new, so as to avoid a trial for literary piracy, and yet get the credit of getting out an "original thing" with those who know no better; but there are not enough horticulturalists of advanced taste in the country to enable you to make a standard work at that price." But we neither copied, nor stole, nor served up to our readers aught of literary "shoddy." While we have actively watched over a sea of exchanges for any original views on horticultural practices floating on its surface, in transferring them to our columns we have carefully given all credit to the originators, doing justice alike to friends and foes. Our pages are a clear reflex of the minds of our excellent contributors, and will, we honestly think, bear a favorable comparison with any horticultural journal in the world, at whatever price published.

We have assumed the position of a director of horticultural taste, in addition to the office of a recorder of its progress; and we can say boldly, with the great orator, that "Our errors, if any, are our own; we have taken no man's proxy." The result has been, that in spite of the times, the *Monthly* has now reached a point that will, for the first time in its existence, admit of its being placed in a business position that will insure its perpetuity for all time to come.

Mr. W. G. P. Brinckloe, who has had the actual business management since the commencement, will continue his labors, and be the responsible Publisher and Proprietor; while Mr. Meehan will continue, as heretofore, his Editorial services.

We offer no premiums, and make no promises. All we ask of our friends is, that they measure the future by the past. As then, so now they will find that every new subscriber they obtain for us, every new or interesting fact they contribute to our pages, or any favor in connection they may do us, is so much added to our power to serve them in return by adding to the value and interest of the magazine.

IMPROVEMENTS IN PROPAGATING.

In our second volume the subject of striking cuttings occupied considerable attention, and many new modes of managing them were suggested, that have had considerable influence in making a very simple operation out of what has been one of the most intricate matters appertaining to the gardener's art. Still, it must be remembered that there never can be rules for striking cuttings so clearly developed as to apply to all individual instances. Every plant has a nature peculiarly its own, and its mode of treatment as to conditions of growth and method of propagation will be as peculiar as its nature. We can, for instance, propagate plants by budding; but a plum must here be budded in June or July, an apple in July or August, and a peach in August or September; and as to the manner of budding, in England the wood must be taken out of the bud before insertion, while in this climate it is unnecessary. In fact, as it is said of learning, that there is no "royal road to it," so neither in propagation of plants will regal science do a great deal to abridge the labors common mortals must take to master the art. It is a knot that must not be cut, but be carefully untied, even at the expense of years of careful study.

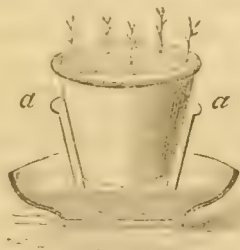
There are, however, a few principles that are very clear; and by understanding and acting on them, the most verdant tyro may soon get on the high road to success.

For instance, cuttings die from two causes,—

either from drying up, or from rotting before roots are produced. The object of the propagator is to hasten the production of roots, and also arrest evaporation or decay until this happy event occurs. Rotting frequently arises from the ruptured cells, made so by the act of cutting the shoot in suitable lengths. The modes of caulousing heretofore described in our journal have done much to aid the propagator on this point. To hasten the production of roots requires, in the first place, practical knowledge of the nature of the plant, as to whether old wood or young wood roots easiest,—or whether it does best taken off in summer or spring, winter or fall. When the right season is discovered, bottom-heat assists rooting, as it hastens decay when an improper time is attempted. As a rule, cuttings in a state of rest require time, and those in a growing state pushing on. Bottom-heat would soon destroy the first, and the latter do badly without it.

The reader will thus see that no mode of striking cuttings can be perfect. All will possess advantages and disadvantages, and all and any mode that has been found successful is worthy of attention.

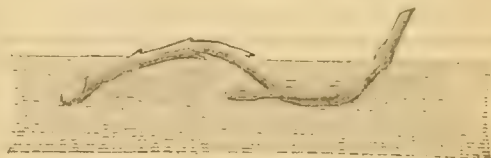
We have recently read an explanation of an idea of Mr. Beaton, that must be of service to amateurs who wish to propagate in a small way,—and the principle may be applied by those who are not satisfied with less than wholesale practices. We have made the following sketch of the plan proposed.



A common flower-pot (say four-inch) is taken and prepared with drainage and sand for the cuttings in the usual way. This is set in another four-inch pot, which we have shown cut in halves, and will only go down about three-fourths of the way, resting on the lower one, as shown at *a a*. When being set in, putty or cement of any kind is set around at the junction *a a*, which will make the passage air-tight. This double pot is then set in a saucer of water, so that the water shall only reach to the bottom of the upper pot. A section of the saucer only is given, to show the water-line. The advantage of this plan is, that when the pot is ex-

posed to the sun, it becomes warm—vapor is generated, and circulates around the inside pot, which makes as perfect a warm water tank on a small scale as one can have. On this plan, water will seldom or never be required on the sand,—all being applied to the saucer below. The cuttings, unless very delicate, indeed, will not require any bell-glass over them to check evaporation, which glass, after all, is useful, in any case, only at the expense of rapid growth.

There is also another idea in propagating, of which we have been recently reminded by Mr. Beaton, and which we know by experience to be a very valuable one. It is called *cutting layers*, and this sketch will explain it.



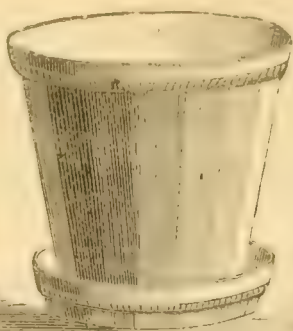
It is excellent for cuttings that will take their own time to root. The difficulty with such cuttings is, that if you take the lower end, it will not break well; if you take the top end, it rots; and if you take the whole shoot, the soft part exhales all the moisture before the slow hard end will hurry itself to put out roots. The *cutting layers* meet all these objections. The hard, firm end is put in the ground firmly, and the softer end, towards the apex, cut as for layering, always cutting on the upper surface, as we have hitherto taught in the *Gardener's Monthly*, and as shown in the sketch. Roots will soon come from the slit part, while sufficient vitality will be drawn from the lower part to prevent any premature decay in the upper end. After rooting, the lower part may be cut away.

We have some more useful hints for special modes of propagation, which we shall give from time to time, as the almost infinite subjects that occur to us monthly requiring attention will permit us.

PARLOR POTS.

MR. BRIDGEMAN sends us a sample of some flower-pots intended for rooms and places where taste and elegance may reasonably be looked for.

Attempts of this kind have been before made, but the employment of crockery-ware for the purpose, in which plants do not generally grow as well, has been against their general introduction. Mr. Bridge-



man's pots are of the same porous material as the common flower pot, and we think so well of them, that we have made the above cut from one sent us.

Scraps and Queries.

✂ Communications for this department must reach the Editor on or before the 10th of the month.

✂ The Editor cannot answer letters for this department privately.

NAMES OF PLANTS.—A *Baltimore Subscriber* inquires:

1st. Are the *Populus angulata*, *P. Carolina*, and *P. macrophylla* distinct species of the *Poplar*? Which of these is the cottonwood of the West?

2d. Is there such a species of the *Ash* as the *Fraxinus longifolia*? What is the botanical name of the "*Variegated Ash*"?

3d. Is there such a species of the *Linden* as the *Tilia macrophylla*?

4th. Is the *Poplar-leaved* the same as the *Cornell Willow*; and if so, what is its botanical name?

5th. Is the *Prickly Ash* the *Xanthoxylon fraxineum*, or the *Aralia spinosa*?

6th. What work can you recommend as best adapted for an amateur to consult in seeking information as to the technical names and general character of ornamental trees, shrubs, &c.?

[1. There is no *Populus Carolina*, or *P. macrophylla* recognized by botanists. They are nursery names given to *P. angulata* of Michaux. It is called often the *Carolina Poplar*, and is the *Cottonwood* of the West. *Populus monilifera* of Aiton or *Virginian Poplar*, called in Europe "*Swiss*" *Poplar*, is almost universally grown in our nurseries as the "*Cottonwood*," and sold for the true *angulata*, which we have not as yet found in any nursery. There is, however, a large specimen of the true kind near the old Marshall Nursery at West Chester.

2. *Fraxinus longifolia* is also but a nursery name. We believe it to be a variety of *F. excelsior*. The *Variegated Ash* is a variety of *F. acuminata*, though called in nursery catalogues "*Aucubæfolia*," from its leaves being spotted like the *Aucuba*.

3. *Tilia "macrophylla"* is but a garden name for a large-leaved variety of *Tilia Europæa*.

4. The same. We have never examined what species this variety belongs to, and have no specimen by us just now to refer to in order to ascertain.

5th. The *Xanthoxylon fraxineum* is known in the North as the *Prickly Ash*. In the South *X. Carolinianum*, another species, goes by the same. The common name of *Aralia spinosa* is "*Angelica tree*."

6th. Meehan's *Ornamental Trees*, is the only work we know of, giving the technical names, botanical descriptions, and popular characters of the trees and larger shrubs cultivated in our country. Michaux and Nuttall's *Sylva* is the best work devoted exclusively to American trees. Of shrubs, there is no work that we can name.—Ed.]

NATIVITY OF DELAWARE GRAPE.—J. S., *Geneseo, Ill.*, says:

"I have Delaware Seedlings growing one, two, and three years old, healthy; none have shown signs of mildew. Are not such facts pretty conclusive evidence that the Delaware grape is 'aboriginal' to America? See page 271, *Monthly*."

[In our first volume we stated that we had, years ago, seen in the upper regions of country bordering on the Delaware River, forms of grapes similar to what we in later years knew as the Delaware. There was at that remote period little talk of grape improvement, and no particular peculiarities in them arrested our attention. The past summer we had the opportunity of again botanizing in that direction, and found the same forms of grapes rather abundant. They proved to be varieties of *Vitis Æstivalis*, our well-known summer grape. They are pulpless and of chocolate color just as the Delaware grape. Entirely worthless as eating grapes—of course, as most wild grapes are; but with all the necessary characteristics requisite to satisfy us at least that the Delaware grape is descended from that species, as an examination of its own characters sufficiently shows it to be.—Ed.]

WALKER'S MOUNT VERNON PEAR.—In the October number of *Hovey's Magazine*, the editor objects to this name, saying "we do not know whether that name was authorized or not by the *Gardener's Monthly*;" and so he proceeds to describe it under another one. Waiving all other principles of au-

thority, we might suppose Mr. Walker's own letter, giving this name as his choice, and his reasons therefor, (see our February number, page 62,) would be satisfactory to our contemporary. In a recent case, when he imagined the *Horticulturist* had overlooked what he considered a fact, he remarked that he knew its "editor was deaf, but he did not suppose he was blind also." We shall not follow such a questionable example of the courteous gentleman, but in charity express our belief that the editor of the *Magazine* overlooked Mr. Walker's letter above referred to. We must, however, say that it was very easy to inquire of us, or of his neighbors, Walker & Co., for some explanation if he really desired it, before rushing into print with another name.

Every pomologist deplors the needless multiplication of synonyms, and takes every reasonable precaution to guard against the evil; but judging by this case, that of Boston or Pinneo Pear, and other instances, we are sorry to believe Mr. Hovey does not consider it an evil that it is worth any research or inquiry to avoid.

FIRST YEAR VINERY—H. P. asks:—"I planted forty-three vines in a new cold grapery on the 17th of April last; the vines were just commencing to push when I planted them. They are now twelve feet long, having been stopped three times since the 1st of September. The kinds are Black Hamburg, Black Lombardy, Sweetwater, Muscat of Alexandria, and Royal Muscadine. The canes are stout, and finely ripened. How should they be managed through the coming winter and spring?"

[If the vines are "very stout," a couple of bunches of grapes may be permitted to be borne by each next year, in order to test the accuracy of the kinds. The chief object next year, however, should be the production of good strong canes to bear well the season following. Therefore, cut down your vines to about three good eyes this winter. When they break next year, train up the strong terminal shoot and stop back the side ones left for fruit when three or four eyes in length.]

GRAFTING LARGE PLUM STOCKS—J. S. H., Lansing, Mich., asks:

"I wish to know through the *Gardener's Monthly*, if Plum Stocks can be successfully whip-grafted? I have some that are large, though only one year seedlings; they are a quarter to a half-inch in diameter. I fear they will be large to transplant and bud next season."

[They may be whip-grafted successfully, but we should cleft-graft them when so large. The space

not covered by the scion heals quicker this way in such cases.]

MOLE TRAPS—W. C. D., Louisville, Ky.—We will place in our engraver's hands sketches of the various mole traps in use in this country and Europe, and have them ready for our next number.

UNION VILLAGE AND ONTARIO GRAPES.—A pomological friend on the Hudson, writes:

"I am pretty well satisfied that these two are the same, but not quite positive. Another season will determine."

BACK VOLUMES—"A Subscriber," Pittsburg, Pa., who sends no name, writes:

"Please inform a subscriber whether he can get all of the numbers of the *Gardener's Monthly* of the years 1859 and 1860, and for what price?"

[The publisher replies, that full sets may be had bound, \$1.50; unbound, \$1.00 per volume.]

New or Rare Plants.

At the September Exhibition of the Pennsylvania Horticultural Society a number of plants were exhibited for the first time. We made a few notes of some varieties that we thought desirable in the way of ornamental foliage plants:

Alocasia metallica.—Decidedly the most singular, striking and most beautiful of foliage plants. Imagine an oval, shallow bowl, or a concave, corrugated or ribbed shield of burnished copper of about a foot and a half in diameter, supported at the centre by a foot-stalk of about two feet in height.

Micania speciosa.—A stove climber, or rather trailer. Leaves, when fully developed, nine inches long, of an acute cordate shape, of a rich dark velvety green, veined with white somewhat in the style of *Cyanophyllum magnificum*; mid-rib and underside of leaf a dark crimson. Since the introduction of *Cissus discolor*, we have seen no stove climber that we have been so much pleased with.

Argyrea argentea.—Also a stove trailer. The underside of the leaves are like burnished silver. It was shown trained on a flat, perpendicular wire trellis, and had been grown where the light was admitted to but one side of the trellis. This treatment causes all the upper side of the leaves to turn to the light; leaving the silvery side next to the spectator. A curious, as well as beautiful, plant.

Caladium Belleynei.—This fully sustains the repu-

tation given it by the foreign periodicals and by the description and engraving furnished in this magazine.

Cyanophyllum Assamicum.—Hardly equal to its magnificent relative. Color a light, lively green.

Campylobotrys argyroneura and *C. Smaragdina*.—Very beautiful additions to this very beautiful genus of plants. The latter has very large light-green leaves, of a very curious shade, and of a metallic lustre.

Caladium Bognartii.—Leaves quite sagittate, dark green like *bicolor picturata*, with a deep red stripe down the centre, with two or three red stripes or rays diverging from each side of it at the broad part of the leaf.

Sphaerostemma marmorata.—A stove climber, with large leathery leaves, dark, mottled with light green. Quite a striking plant.

Heterocentron album.—We have already noticed the *H. roseum* as being a valuable addition to our winter-blooming plants. The *H. album* furnishes us with what we greatly need in winter,—a graceful and persistent or durable white flower for bouquets.

LARIX MICROSPERMA. (*Lindley*.)—Small-seeded Larch. Lambert calls our Larch *Larix microcarpa*. As the similarity of the names may cause some confusion, we give a cut of the new species, and the accompanying description from the *English Journal of Horticulture*; so that when introduced here, our cultivators may readily distinguish them.

"Among the conifers sent home by Mr. J. G.



Veitch is one which, on account of the unusual smallness of its seeds, Dr. Lindley has named *microsperma*. Mr. Veitch characterizes it as a tree from forty to fifty feet high, with foliage resembling the Spruce Fir in point of color, and very glaucous on the under surface. The leaves are as long as those of *Picea amabilis*, and perfectly silvery underneath. It was found at Hakodadi, in Japan.

NEW BEGONIA "PHILADELPHIA."—We were shown a few days since a Seedling Begonia from *B. rex*, which is quite an acquisition. In most of the seedlings from this parent, the green is generally of a dull sombre olive, imparting a gloomy effect to the foliage. In the seedling referred to, this olive-green is replaced by a bright and intense emerald, which adds greatly to the beauty and cheerfulness of the foliage. We understand it was raised by Mr. Sutherland, gardener to Mr. Fahnestock, of this city, who named it "Philadelphia."

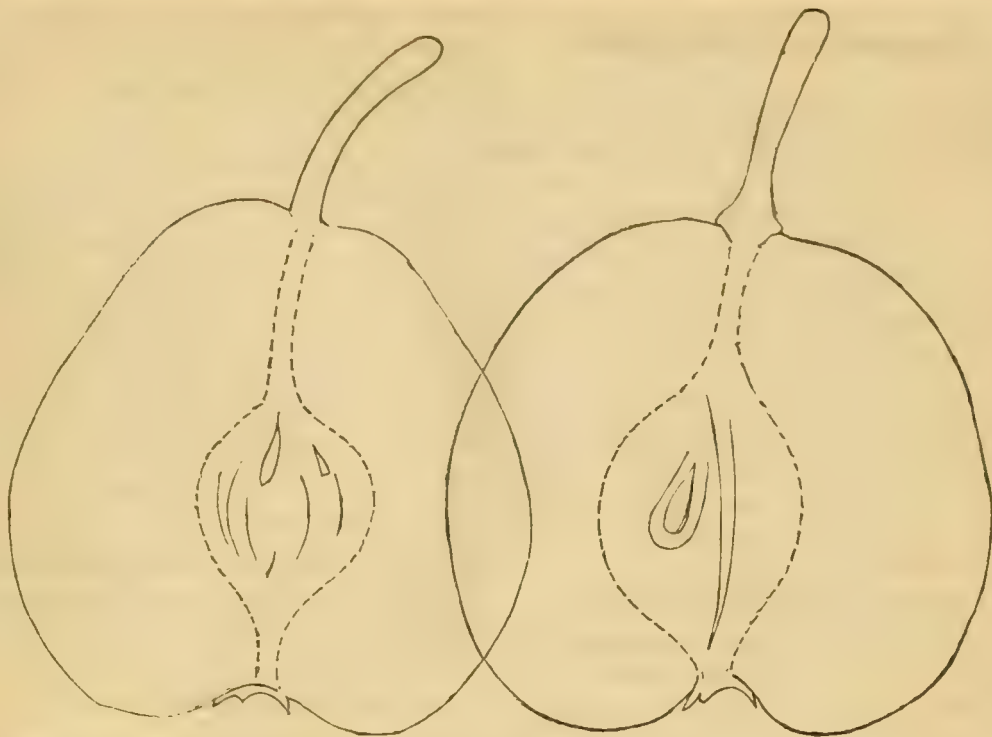
New and Rare Fruits.

THE CARVER APPLE. (*See Frontispiece*.)—As there are two very distinct apples known by this name, the one comparatively local, little known, and little more than second-rate; and the other pretty well disseminated, and of superior qualities, we have thought it would serve a useful purpose to figure the latter for identification in disputed cases.

The illustration was taken from a specimen grown by Mr. Lukens Peirce, of Ercildoun, Pa., whom we have asked to give us a description and history, to which he replies as follows:

"In regard to the Carver Apple, I regret not being able to furnish you with a complete history of its origin. After some inquiry, I learn that it has been cultivated in Lancaster County. One of the oldest trees grows in Burt Township by the side of Smith's Cider. My informant was led to conjecture, from their age, that they might have come from Bucks County together. The trees from which grafts were furnished us fifteen years ago, I am informed, were obtained in York County.

The specimens I furnished you were of average size, from a young tree which has borne abundantly during the last four unfavorable years. It is most highly esteemed where known for its abundant bearing. It is of large size; greenish white, and when fully ripe, yellowish white. In quality sprightly, acid, with quite an agreeable flavor when fully matured. Ripens middle of August, and keeps well without decay. On old trees is said to be much affected with transparent watery spots."



[THE ORANGE PEAR.]

THE ORANGE PEAR AGAIN.—We stated in our last that we failed to recognize this fruit under any name known to us. Anxious to ascertain, if at all possible, the real name of so desirable a variety, we sent a sample to Dr. W. D. Brincklé, New Jersey, but did not hear from him until after we went to press. In the hope that some of our friends may recognize it, we give the annexed outlines of two varying specimens.

Dr. Brincklé remarks, under date of October 29th :

"I received a pear from Mr. Allen, of White Hill, (Chief Engineer of the Camden and Amboy Rail Road Company,) which has brought the subject back to my recollection, from its bearing some resemblance, especially at the base, to the one you sent. The peculiarity to which I refer is the insertion of the stem, without depression, in a plain, flat surface, sometimes by a fleshy ring. I know but three or four pears—such as the Kingsessing, Hosenschenck, some specimens of the *Signeur d' Esperen*, &c., that possess this peculiarity, with a roundish form and good size. The one you sent was "very good" in quality, and so was the one sent to me yesterday by Mr. Allen, but I can recognize neither of them as any known variety. Mr. Bennet, a neighbor, in-

forms me, in a note to-day, that the variety which both he and Mr. Allen have, came from Ireland."

NEW WHITE STRAWBERRIES.—Last season seems to have been prolific in either seedlings or sports—for we are not sure which—of a light color, from the Albany Seedling. Some of these have been already "named and described" in the papers,—in our opinion, much too hastily, as some, perhaps all, will prove so near alike as to be unworthy of even a separate preservation and existence.

The *Albion* has already been described by competent authority in our pages. *Lennig's White*, *Freas' White Pine Apple*, *Hein's Large White*, *Hein's Cherry-colored*, and *Welcome* are the names of the others referred to.

THE LUCY WINTON GRAPE, the *Havana Journal* says, originated with Dr. Winton, of that place, and is equal in quality to the *Isabella*, but three or four weeks earlier.

THE ADIRONDAC GRAPE, the *Montreal Herald* says, was raised by Mr. Bailey, of Plattsburg, New York, and is fifteen days earlier than any other, and equal to a hothouse grape in flavor. The "others" named are *Concord*, *Diana*, and *Delaware*.

Domestic Intelligence.

THE OREGON SYCAMORE MAPLE.—It is remarkable that so many trees do better when removed into other climates than their own. Most English and Japan trees do better here than in their own country. We never saw, for instance, the *Cerasus padus* any thing more than a low, scrubby shrub in its own native country, and without beauty or interest. Here, near Philadelphia, it becomes a small tree of twenty-five or thirty feet, and is one of the most ornamental small trees we have. So with our weeds; at least one-fourth of agricultural pests are of foreign introduction, and emulating the example of the whites and the Indians, have driven the aboriginal tenants of the soil to sheltering corners. We thought of these facts while reading in the *Oregon Farmer* a notice of the Oregon Sycamore Maple, which does so well here. After quoting what we said of it some months ago, it remarks:

"It grows upon the bottoms of Oregon; sometimes in the forests; attains a height of sixty feet or more; has large leaves, and apparently is something of the English Sycamore Maple. Its true name is *Acer macrophyllum*.

"We do not believe it will make a good shade tree. It only grows in damp or wet soil. We have seen many young trees of this variety of maple set out for shade trees, but we have never seen a fully developed tree either in the timber or thus planted. What it would become where might be found all the circumstances favorable for its development, we cannot say."

HALF-HARDY COTTON PLANT.—A Peruvian plant, erroneously called *Gossypium arboreum*, and which grows near the region of perpetual snow, is creating attention with the view to culture in the North.

LARGEST APPLE TREE IN AMERICA.—Lewis Kohler writes us, that on the farm of Peter Kohler, Lehigh County, Pa., there is an apple tree which, by actual measurement just made, is $17\frac{2}{3}$ feet in circumference, one foot above the ground. At nearly seven feet high it is $15\frac{1}{4}$ feet around. It forks at the height of seven feet, one branch measuring eleven feet two inches, and the other six feet seven inches in circumference. The tree is fifty-four feet high, and the branches extend thirty-six feet each way from the trunk.—*American Agriculturist*.

SCOTCH HEATH IN THE UNITED STATES.—Dr. Gray says, in *Silliman's Journal*:

That "America has no Heaths," is a botanical aphorism. It is understood, however, that an English surveyor nearly thirty years ago found *Calluna vulgaris* in the interior of Newfoundland. Also, that De la Pylaie, still earlier, enumerates it as an inhabitant of that island. But this summer, Mr. Jackson Dawson, a young gardener, has brought us specimens and living plants (both flowering stocks and young seedlings) from Tewksbury, Massachusetts, where the plant occurs rather abundantly over about half an acre of rather boggy ground, along with *Andromeda calyculata*, *Aralia viscosa*, *Kalmia angustifolia*, *Gratiola aurea*, &c., apparently as much at home as any of these. The station is about half a mile from the State Almshouse. Certainly this is as unlikely a plant, and as unlikely a place for it to have been introduced by man, either designedly or accidentally, as can well be imagined. From the age of the plants, it must have been there for at least a dozen years; indeed, it must have been noticed and recognized, two years ago, by a Scotch farmer of the vicinity, well pleased to place his foot once more upon his native heather. So that even in New England he may say, if he will, as a friend of ours botanically renders the lines, that

"*Calluna vulgaris* this night shall be my bed,
And *Pteris aquilina* the curtain round my head."

NEW AND VALUABLE FLOWER-SEEDS.—Such is the taking title of a notice, emanating from the Patent Office, in the daily papers, of seeds now ready for distribution. What do our readers think this list is composed of,—this *new* and *VALUABLE* list? The common *Yellow Evening Primrose*—one of the vilest weeds of our cultivated grounds—strikes us prominently. The rest is made up of common Wallflowers, Snapdragons, Yellow Mimulus, Sweet Violet, Ten-week Stocks, White Egg-plant, Venus' Looking-glass, Indian Shot, &c. To be sure, they are sent out as *Oenothera biennis*, *Antirrhinum* varieties, *Cheiranthus cheiri*, *Mimulus aureus*, *Viola odoratus*, *Mathiola annua*, *Solanum ovigera* (!) *alba*, *Campanula speculum*, *Canna indica*, &c., and there is something in a Latin name! About one hundred are named, and the above is a *fair sample* of these "new and valuable seeds." Thirty thousand dollars of the people's money has been voted to be spent in this way, and the deficiency in the mail service we are taxed to supply, is owing, in a great measure, to these "free government parcels." We again ask, what is the object of this scandalous waste of public money?

TAYLOR'S BULLITT GRAPE.—At a meeting of the Cincinnati Horticultural Society last week, a sample of this grape was exhibited by Mr. Sterrett,

of Glendale, and on motion of Mr. Heaver, it was agreed that from this specimen and that of others previously exhibited before the Society, they deem it unworthy of general cultivation.—*Field Notes.*

HEDGING IN TAZEWELL COUNTY.—Below we give the statement of Mr. Clark Barton, of Tazewell County, Illinois, of the cost, culture, etc., of an Osage Orange hedge, entered by him for a premium at their recent county fair. It is brief, yet plain and comprehensive:

In the year 1858 I purchased hedge plants to the amount of ten dollars, which I set out, making one hundred rods of hedge. The first year the setting and cultivating cost me six dollars. The second year, cultivating and trimming cost two dollars. The third year, trimming, two dollars.

Preparing Ground and Setting.—I ploughed a large land on the side of the field on which I set my hedge, so I had neither the ridge nor the dead furrow for my hedge row, but level ground; then with a common plough I made a furrow in which I set my hedge, placing the plants about four inches apart, and covered them so as to leave the ground perfectly level.

Cultivating.—I took a double shovel-plough, and as often as the weeds sprang up, or the ground became baked, I ploughed it up, keeping the ground level.

Trimming.—I did no trimming the first year. The second year I trimmed once, which I did about the first of April, cutting the hedge about three inches above the ground. The third year I trimmed twice; first, about the first of April, cutting the hedge about one foot from the ground. Second, the first of July, cutting about three feet above ground; after which, my hedge has been completely adequate to turn all my stock.

Of the hedge, the committee says: We do hereby certify that the above-named hedge has been well cultivated, that it is a good, substantial fence, and that it is worthy of a premium from our County Agricultural Society.—*Prairie Farmer.*

EXCRESCENCES ON GRAPE-VINES.—We lately visited the residence of H. N. Fryatt, Esq., of Belleville, New Jersey, for the purpose of examining a grape-vine which was supposed to be bearing fruit differing widely from the grape. We found excrescences upon the vine resembling a green fig in appearance, and of a texture on the surface not unlike that of a fig. Upon cutting them open, however, they showed indications of cells, as if nature were making efforts to produce seeds, and these arranged with great regularity and method.

We carried a branch from this vine containing two of these excrescences, to the Farmers' Club, and, although many experienced horticulturists were present, none had ever seen a similar phenomenon. The vine was well charged with grapes, and the excrescences were numerous.—*Working Farmer.*

LIMA BEANS AND BEAN POLES.—In place of the sharpening process, punching holes in the ground, inserting poles deep enough to withstand the force of summer gusts and autumn blasts; and having them rot off every year, a simple block of hard wood, four inches square and two thick,—having four one inch holes bored right through it, receives the smaller ends of four poles six feet long, which being spread apart at the bottom, form a quadruped standing like a huge spider, firmly upon the surface, and receive the vines from four hills, leading them per necessity to a union at the apex. Whenever the vines attain the summit of their support, a clip from the garden shears admonishes them to keep down, and apply their sappy vigor in perfecting a more stocky growth and uniform crop of perfected fruit, instead of exhausting their beany energy in skyward ambition.

When the crop is harvested the spider is readily lifted from its position, the dead vines stripped off, the legs closed like a surveyor's tripod, and the thing housed for service another year.—*Working Farmer.*

OBITUARY.

DR. E. JAMES, the Botanist, attached to Long's Exploring Expedition, and the first to make us acquainted with the plants of the Rocky Mountains, died, from an accident, at his residence, in Monmouth, Illinois, on the 29th of October.

Foreign Intelligence.

HOW TO JUDGE CELERY.—Solid, close, clean; stems not burst; size of the Close Heart is the great point, all others being equal. No outside burst or open or damaged stalks to be shown. White first, red second, any other color last. If shown for weight, they must be properly trimmed of their green leaves, and no cracked or damaged stems to be passed; and if not perfectly solid, must be rejected.—*Glenny.*

PEACH FROM A NECTARINE.—The nectarine originally was a sport found on a peach tree.—Recently, Mr. Rivers has raised a fine seedling peach from the stone of a Pitmaston Nectarine.

GRAFTING THE PELARGONIUM.—In the culture of the pelargonium, grafting is occasionally had recourse to, as a means of propagating kinds that are shy of culture by other means, or for the sake of increasing the extent of collections where space is limited, and for the obtaining of fine specimen plants. They are grafted by cutting off the top of the stock, and splitting the top of it into halves, and wedging the end of the graft down into the slit.

This is an operation easily performed; indeed, any one who has ever grafted an apple on a crab stock, or who has ever seen the process, may soon become an adept in grafting geraniums. The stocks should first be secured, and the best for the purpose are summer-struck cuttings, taken from old, woody, strong plants, two years old at least. Grow these stocks into strong, bushy, dwarf plants,—promoting their vigor by the means already pointed out for the



[The Graft tied up.]

culture of specimens. In the ensuing summer pot them into large pots, about a month before you intend to graft them; for to make the graft "take" there must be a brisk flow of sap in the stock. In the grafting, first cut back the stock to a place where the wood is just half ripe; it must be sound and hard, but neither green nor brown. Let the scion be in the same half-ripe state. After cutting back the stock, split it down an inch and a half; and if you can choose a part where the stock breaks into two branches, the fork will be just the place for letting in the graft. Cut the graft into a clean wedge, and insert it to fit neatly bark to bark; if this be not possible, let one side at least be united, so that when the graft "takes" the bark will close over and complete the union. Tie up moderately tight with worsted thread, and paint over with a thick coat of clay paint, to be made thus: Take some soft clay and knead it with a little water till it is of a pasty consistency, then put it into a clean vessel with a little more water, and work it about with an old brush till it is of the thickness of cream,

free from grit and semi-liquid. Paint the graft over with this, and shake over it as much dry sand as will dry it *immediately*. Then apply another coat, and another, drying each with sand as soon as applied.

To secure the graft against damp, it will be advisable to surround it with an inch of silver sand,—not only around the grafted part, but an inch above and an inch below; and the best way to do this is to make a paper funnel, similar to a grocer's sugar paper, tying the close bottom of the funnel around the stock below the graft, filling it in with dusty peat and silver sand, and then closing the top over into a barrel shape. This will be the best security against the failure of the graft. The scion will need support for a time.

Three weeks after grafting, stop the top parts of the



[Grafting Geranium.]

stock, and loosen the bandage slightly; but there must be no haste, for geranium wood does not unite very quickly. Any exhausting influences will, of course, check the union; hence it is advisable to syringe the leaves of the scion occasionally, and to keep the stock in a state of robust health. When they show that they have fairly united, and the scion begins to grow, the bandage may be removed, and a little soft moss applied in its stead, and in time this may come away altogether. When they make a fair start, grow them as directed for specimen plants, and their appearance, when blooming time comes, will be quite superb. Geraniums may be side or whip-grafted, but the wedge plan is the best, because of the soft nature of the wood we have to deal with.—*London Gardener's Weekly*.

THE LARGEST GARDENS IN THE WORLD are those of Versailles, in France. They comprise three thousand acres.

PACKING FRUITS FOR LONG DISTANCES.—I may here state, that I have found no better method in all my experience, which has extended over a period of twenty years, with all kinds of fruits, varying in distances from fifty to five hundred miles. It simply is: box, soft paper and sweet bran. A box is chosen in size according to the quantity to be sent. A layer of bran is put on the bottom; then each bunch of grapes is held by the hand over a sheet of paper; the four corners of the paper are brought up to the stalk and nicely secured; then laid on its side in the box, and so on until the first layer is finished. Then fill the whole over with bran, and give the box a gentle shake as you proceed. Begin the second layer as the first, and so on until the box is completed. Thus with neat hands, the bloom is preserved, and may be sent to any distance; but with clumsy hands, quite the contrary, and often an entire failure, as the putting in and taking out of the box are the most important points to be observed. I have invariably packed sixty or eighty bunches of grapes and fifty or sixty dozen of peaches or apricots in one box, and received letters from employers to say that they had arrived as safe as if they had been taken from the trees that morning.—*Cottage Gardener.*

LISTS OF SELECTED CHRYSANTHEMUMS.—I have very much pleasure in forwarding your Christmas box. May it meet your every wish and expectation.

I have made some additions, so that you will please consider I have also included a New Year's gift.—*W. Holmes, Frampton Park Nursery, Hackney.*

Twelve Late-blooming Large Varieties.

Orion, white, yellowish base. Perfection, blush white. Chryssippe, rosy purple. Eole, rosy white. King, creamy white. L'Emir, red. Nonpareil, rosy lilac. Plutus, golden yellow. Racine, yellow, gold tipped. Cassy, orange. Madame Andre, pinky white.

Twelve Best Varieties for Pot Specimen or for Decorative Purposes.

Alcibiade, orange. Chevalier Dumage, yellow. Defiance, white. Vesuvius, crimson. Mount Ætna, red. Prince Albert, crimson. Plutus, yellow. Pilot, rose. Dr. McLean, rose. Vesta, white. Auguste Mie, red, tipped gold. Annie Salter, yellow.

Twelve Best Incurved Varieties.

Novelty, white. Beauty, blush. Cassandra, white, rosy tip. Yellow Formosum, yellow. Nonpareil, rosy lilac. Pio Nono, red, tipped gold. Plutus, yellow. Queen of England, blush. Themis,

rosy pink. Vesta, French white. Miss Kate, lilac. Dupont de l'Eure, carmine.

Twelve Best Pompones for Specimen Plants, and for General Decorative Purposes.

Bob, chestnut brown. Drin Drin, yellow. Andromeda, creamy white. Cedo Nulli, white. Canrobert, yellow. La Vogue, yellow and orange. Helene, purplish rose. L'Escarboucle, yellow. Sainte Thais, chestnut. Nelly, creamy white. Mrs. Dix, white, purple tip. Duruflet, rosy lilac.—*Cottage Gardener.*

TOMB OF REPTON, THE LANDSCAPE-GARDENER.—He himself selected the small enclosure on the south side of the picturesque church of Aylsham, in Norfolk. A simple Gothic monument records his name and age, followed by some lines written by himself:

"THE TOMB OF HUMPHREY REPTON, WHO DIED MARCH 24th, 1818.

'Not like the Egyptian tyrants—consecrate,
Unmixt with others shall my dust remain:
But mouldering, blended, melting into earth,
Mine shall give form and color to the rose;
And while its vivid blossoms cheer mankind,
Its perfumed odor shall ascend to heaven.'

THE LILY OF THE VALLEY is popular for winter forcing in some countries. Its sweet white flowers give a great charm to a winter bouquet or mantel vase.

VARIATION IN SEEDLINGS.—In 1688 the lady of Ribston Hall, Yorkshire, England, raised two seedlings from the old Nonpareil Apple. One tree produced large, sour Crabs,—the other the famous Ribston Pippin, the most popular apple in England.

THE JARDIN DES PLANTES, one of the most famous in Europe, was founded in 1635. Buffon, Cuvier, and other eminent naturalists first gave it a name and consequence.

THE CHINESE PRIMROSE was introduced into England from China in 1820. It was purple, as we have them now in our greenhouses. Since then, the white has been introduced, and a double white and double purple have been produced. Recently, in England, a new race of double ones has been produced, with large fringed flowers, and, we believe, of a character that will reproduce themselves from seeds.

THE NEWTOWN PIPPIN APPLE is so popular in England, that when the real American article is scarce, it is not unusual to find other kinds in Covent Garden colored up to imitate them.

SPRING FLOWERS BLOOMING THROUGH THE SEASON. At Hampton Court, in England, they cut off the flower shoots of Laminums, Alyssums, Iberis, and other spring-blooming plants, before they are quite out of bloom. They then shoot up again new flowers, and are thus made to continue a succession through the season, and make good bedding plants.

MYRTACEOUS PLANTS.—It is said by the *Revue Horticole*, that the atmosphere of Australia is filled with the odors of balsam and camphor, from the myrtaceous trees that abound there; and that fevers never exist in even the most malarious of swamps, where these plants grow.

GAZANIAS.—The *Gazania rigens* (not *ringens*) of gardens, which is, perhaps, the *G. speciosa* of books, has smoother leaves than *Gazania Pavonia*, in which they are regularly pinnatifid with elliptic lobes, and sprinkled with rigid hairs above and on the ribs beneath. The flowers of the latter are deeper colored, but not so freely produced. In *G. rigens* the leaves are either simple or furnished with three or four long narrow lobes, smooth above, but with a few distinct marginal spine-like hairs. The genus *Gorteria*, as now restricted, does not include any of these plants. — *Gardener's Chronicle*.

PRIZE FUCHSIAS AT THE LATE LONDON HORTICULTURAL SOCIETY'S SHOW. The varieties were Senator, Prince Imperial, Prince of Orange, Flower of France, Guiding Star, and Omer Pasha. It will be seen that half of these are new varieties. A good group was also shown by Mr. Page, whose sorts were Souvenir de Chiswick, British Sailor, Venus de Medici, Pearl of England, Crinoline, and C. Hayes. We also noticed a kind with white corolla, called Princess of Prussia.

Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The regular monthly meeting for November was held at Concert Hall.

The display of Fruits and Plants was not so large as usual, the principal part of the evening being the annual election of officers and the discussion of the reports of the Committees.

Some very fine Chrysanthemums were shown by Mr. Robert Buist; by James Eadie, gardener to Dr. Fisher; and by Adam Graham, gardener to General Patterson.

The awards of premiums were as follows:

For the best six Chrysanthemums, to Robert Buist.

For the best Large Specimen and best Dwarf Specimen, to James Eadie.

For the best Pair of Plants and best Specimen Plant, to James Eadie.

For the second best, to Adam Graham.

A special premium was given to Mr. Buist for a fine large plant of *Heterocentrum roseum*, shown for the first time in bloom.

William Joyce, gardener to M. W. Baldwin, Esq., exhibited eight fine specimens of the Queen Pine Apple, of large size, fully ripe, and of the highest flavor, which were duly appreciated by the Committee and the ladies present. To these a special premium of \$3 was awarded.

The two premiums for best six varieties of Pears, and six largest of any variety, were taken by John McLaughlin, gardener to Mr. I. B. Baxter.

Specimens of the Ontario Grape were shown, a large showy fruit, but deficient in flavor.

Mr. William Saunders presented two large dishes of the Black Lombardy and West's St. Peter's Grapes. These two varieties are generally considered synonyms, and so laid down in horticultural works generally; but the samples presented, while quite similar in size and flavor, show some difference in the form of the bunch and color of the berry, and Mr. Saunders states that the diversity in foliage and wood is still more marked. They certainly appear to be distinct varieties.

The Committee appointed at a previous meeting to obtain suitable quarters for the Library and weekly meetings of the Society, made their report, and were empowered to negotiate for a convenient room.

The following gentlemen were elected as the officers of the Society for the ensuing year:

President—M. W. Baldwin.

Vice Presidents—James Dundas, B. A. Fahnestock, D. R. King, Caleb Cope.

Recording Secretary—A. W. Harrison.

Corresponding Secretary—W. Saunders.

Treasurer—Robert Buist.

Professor of Botanical—S. S. Rathvon.

Professor of History—Dr. W. Darlington.

Professor of Horticultural Chemistry—James C. Booth.

BROOKLYN HORTICULTURAL SOCIETY.

We have received the following:

"*Dear Sir*:—At the regular business meeting of the Brooklyn Horticultural Society, held on Tuesday evening, November 5th, at their rooms, it was unanimously

"*Resolved*, That the thanks of this Society be presented to the Editor of the *Gardener's Monthly* for the very handsome manner he had published the Reports of the Exhibitions and Conversational Meetings, and that the Corresponding Secretary be directed to send a copy of the Minutes.

"Respectfully yours, &c.,

"C. B. MILLER, *Cor. Secretary*."

We would take the opportunity to say, that we could render good service to other Horticultural Societies were we favored with such assistance as the energetic Secretary of this Society kindly affords us.

